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CONTENTS : INHOUD

dical Association of South Africa : Dr. J. S. du Toit Delivers His Presidential Address 953
torial : Van die Redaksie
Ion Exchange 957
Ioonruiling 957
New Arteries for Old 958
duction of Labour. *L. G. R. van Dongen, M.Sc., M.D., M.R.C.O.G.* 959
rebral Coenuriasis in the Bantu. *Kenneth C. Watson, M.D. (Aber.) and William Laurie, D.S.O., M.D. (Glasg.)* 964
Ossifying Fibrosarkoma of the Nose : Case Report. *Ph. A. Smuts, F.R.C.S. (Edin.)* 966
Meeting of South African Medical and Dental Council 968
In Memoriam : Attilio Emilio Dreosti, M.B., Ch.B., F.R.C.S. (Eng.) 973
Passing Events : In die Verbygaan 973
Kliniese Aand by Karl Bremer-hospitaal 974
Reviews of Books : Boekresensies 974
Correspondence : Briewerubriek 975

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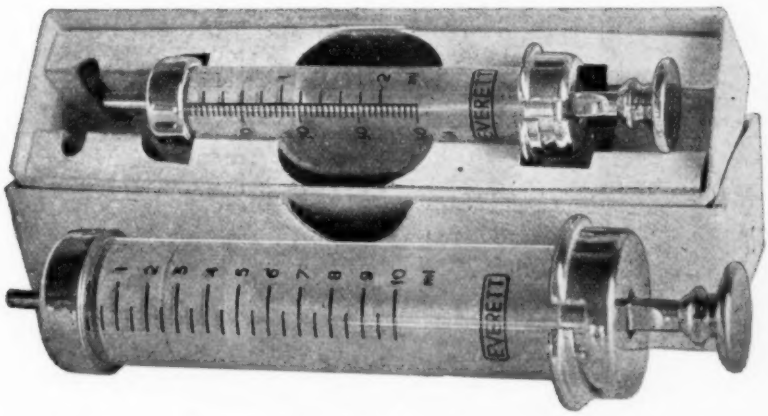

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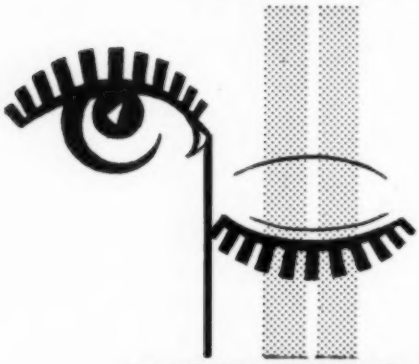

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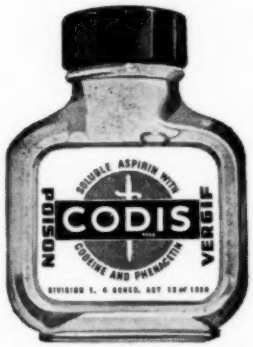

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THE MEDICAL ASSOCIATION OF SOUTH AFRICA

DR. J. S. DU TOIT DELIVERS HIS PRESIDENTIAL ADDRESS

J. S. Du Toit, MD., F.R.C.S. (Edin.) the newly inducted President of the Medical Association of South Africa, delivered his presidential address at the Annual General Meeting of the Association in Cape Town on 3 October 1956. Dr. Du Toit said:

Laat ek sommer uit die staanspoor erken dat die posisie waarin ek my nou bevind nie een van die doelwitte in die lewe was nie. Nietemin wil ek in besonder my kollegas in die Federale Raad, asook van die Mediese Vereniging van Suid-Afrika verseker dat ek dit as 'n groot eer beskou om aan die Hoof van die Vereniging vir die volgende dienstermyn te staan. Dié ere-amp moet 'n medikus tot ootmoet stem, en tewens alle ambisies op die administratiewe mediese terrein bevredig.

U kon tereg gesê het dat ons ou brigade alreeds ons diens gelewer het, en plek moet maak vir jongere kragte. Inteendeel het u aan my hierdie besondere eer laat toekom en my also in die geleentheid gestel om die hoogte sport van die leer te bereik voordat ek aftree.

Dit is hoogs bevredigend om te kan voel dat daar wel sukses behaal is in ons dienstydperk.

Die Mediese Vereniging, met sy ledetal van 5,500 behartig oënskynlik slegs die belange van sy lede wanneer kritiek uitgeoefen word. So kom dit soms voor wanneer daar opgetree word ten behoewe van die diensvoorwaardes van die Mediese Professie. In werklikheid word die belange van die publiek ook deeglik behartig en oral waar nodig beskerm.

Dr. J. S. du Toit

Ons kan wel bevestig dat die Mediese Vereniging geweldig baie behaal het in die verbetering van die status van ons medici in verskillende private ondernemings, in betrekkings in die Staatsdiens, asook in kontrakwerk, en private praktyk.

Waar aandag aan hierdie beroepsbelange geskenk is, het dit steeds gepaard gegaan met beveiliging van die volksbelang. Met reg kan verklaar word dat die Mediese Vereniging sedert sy stigting veel tyd en kragte bestee het aan die ontwikkeling van 'n nasionale gesondheidsbeleid wat die professie in die geleentheid sal stel om sy maksimale bydrae tot die welsyn van die samelewing te lewer. In sover die Mediese Vereniging die professie as georganiseerde liggaam verteenwoordig, lê dit voor die hand dat sy arbeidsveld eerder openbare liggame as die individu raak.

Klaarblyklik kan daar by 'n geleentheid soos dié geen sprake wees van 'n omvattende oorsig van die

vorderinge in die geneeskunde gedurende die afgelope jare nie. Onteenseglik was dié vordering en prestasies aan alle fronte ontsagwekkend. Dit verteenwoordig die redding van 'n enorme aantal menselewens sowel as die voorkoming van tallose siektegevalle. Terselfdertyd is die lewensduur van die mensdom aanmerklik verleng.

Vanweë die gevolglike vermeerdering in alle ouderdomsgroepe van die bevolking ontstaan meerdere behoeftes ten opsigte van werkverskaffing, voedselvoorsiening en ander dienste. Dit alles vereis groter produksie deurmiddel van doeltreffende werk, en dit vereis op sy beurt toereikende gesondheid en liggaamlike geskiktheid. In hierdie verband verdien sekere faktore noulettende oorweging, en een daarvan, die gesigsvermoë, wil ek hier behandel, vanweë die invloed hiervan op die liggaamlike en geestelike welsyn van die individue en die gemeenskap.

SOME FACTORS CONCERNING THE SENSE OF VISION

Medicine, perhaps more than any other profession, is subject to many divisions or special branches. One of these concerns the eye or Ophthalmology, which lends itself to further subdivisions. At first sight it may appear to be a limited subject, but it is in reality a very extensive one. Not only may the general expression of the eye indicate the state of health of the individual, but many a systemic disease may, in the first instance, be detected in the fundus of the eye only. Widely differing conditions from a chronic varicose ulcer of the leg, metabolic disturbance with colon changes, or a malignant pancreas, to a small tumour in the pontine angle, may all show diagnostic changes in the eye.

Specialization should be a genuine search for knowledge, and should be inspired by an earnest desire to amplify and perfect a particular branch of medicine. The eye may be described as the display window of the body where the mental and physical state of health of the individual may be observed. It follows that the question whether one is dealing with a normal or an abnormal state of the eye is the daily concern of the ophthalmic surgeon. The ability of the eye to obtain an impression to be conveyed to the brain, or displayed to the mind, constitutes our ordinary faculty of vision. This is a somewhat complex process which takes place at different levels from the retina, or inner coat of the eye, to the calcarine fissure and cortex of the occipital lobe of the brain, and to other brain centres.

Different factors require consideration in assessing individual visual requirements in our daily routine work. Only two of these factors, namely visual acuity and visual field, will be considered here and not form or colour-sense. By a simple experiment the difference between the two factors can be illustrated. By focussing one eye on a single word on the printed page for a few seconds it will become difficult or impossible to recognize more words than the one selected, thus indicating the degree of visual acuity, that is the sharpness of vision possessed, or the clarity with which an object or printed matter can be discerned, distant or near.

Visual field differs from visual acuity in that, while looking at this one word, it is possible to see an object, but not define it. This power of observing an object or objects away from the point of fixation of the eye, that is in the field of vision, is the actual difference between acuteness of vision and field of vision.

As an example it will readily be realized that in manual work the field of vision is the primary consideration whilst acuteness of vision is of less or secondary importance.

A moving object such as a motor-car or trolleybus, will be observed in the field of vision, distinguished as such, and even the approximate speed may be assessed, so enabling us to avoid being run over. Hence visual acuity is not the only factor that should be taken into account in determining the ability of an individual to see sufficiently well in order to undertake certain types of manual work. It is said that we do possess the gift of being totally blind to that which we do not wish to see; on the other hand, we sometimes utilise the power of exaggerating beyond recognition all that we can see or have seen!

Visual acuity of a stereotyped standard cannot in itself be acceptable, and consideration must be given to the state of the vision in relation to the work undertaken in each individual case. No standard of efficient visual acuteness *only* should be applied to determine the requirements of, say, motor drivers; but of special importance, in such cases, will naturally be the extent of the field of vision.

The question of economic blindness will arise, depending not only on the loss of visual acuteness, but also on the degree of loss of the visual field. Command of a good field of vision is essential for the general requirements of life; in fact serious loss of visual field is almost a greater handicap than even an appreciable loss of visual acuity, especially in the case of employment in rural surroundings.

A RECOGNIZED STANDARD

A much greater range of good work is possible with a reasonably good field of vision, and some loss of visual acuteness than the converse. For practical purposes, and in consideration of the economic factor, a recognised standard of visual field should be devised by the authorities for the guidance of employers in defined occupations. This is a most important factor when considered in relation to our visual requirements in civil life; notably in regard to the daily road users in vehicles capable of high speed.

In connection with accidents caused by speeding it is not uncommon to find that neither the visual acuteness nor the visual field of the person responsible has been taken into consideration in determining the cause of the accident. Should an injured person, as a result of the accident, suffer impairment of visual acuteness that should not be the only factor to be considered in assessing compensation.

A person with his visual field restricted to say 5 or 10 degrees from the fixation point, may, in spite of almost standard visual acuity, feel so blind that he requires to be guided about his way.

A visit recently from a patient who, a few years ago, had a double operation for glaucoma simplex, reminded me of this distressing factor. One eye had very little vision, with field contracted to fixation point, and the

other eye moderate visual acuity and field down to 10 degrees. He was ushered into my consulting room with the outstretched hands and movements of a totally blind individual. It was found that his vision had not been lost, as presumed, but that he had a defect in his adaptability, lamenting the loss of a dear wife. His exit was even more faulty than his entrance, and then it was found that both eyes were firmly closed accounting for his restricted movements.

Although coupled with poor central vision, a full field will enable its possessor to feel himself almost free in all his movements, even in strange surroundings. He will be able to move about at his own pleasure and in comparative safety. It would appear then that far greater emphasis should be placed on the field of vision than is generally done.

It is not intended to belittle the importance of vision for detail, which is essential for educational purposes, particularly in the case of children, to enable them to read the ordinary school books. In the early years of life, the important factors of vision should receive the attention necessary to obtain the best results in later life. Education is related to the printed page, and to be able to read without undue strain is indispensable for the normal schooling.

SCHOOL INSPECTION

With the introduction of school inspection, in so far as it may be effectively carried out, a valuable and progressive step was taken not only for the early correction of visual errors, but also in the preserving of vision. Factors of environment, lighting in school, both in its distribution and quality may, with advantage, receive more detailed attention.

The regular Medical school inspection should make it possible to obtain a classification among school-going children as to their standard of visual acuteness. Those with defects are usually eliminated in early life from the ranks of the normal.

In 1937 a special revised Education Ordinance, No. 43, was promulgated, making provision for the child with defective vision, by instituting sight-saving classes. For obvious reasons little headway was made by this method in the ordinary primary schools, and most of the children with an appreciable visual defect, requiring special attention, found their way to the School for the Blind at Worcester, where the qualification for admission was 'that the sight of a candidate be so affected as to render him or her incapable of being educated by the ordinary methods adopted in the public elementary school'.

Should such children not qualify for registration under the Blind Persons Act 11/36 when reaching the age of 19 years, they create a serious problem for the school, and for themselves in later life. It has not been possible to adopt a definite policy in this school towards the visually defective child, who should really be instructed in a sight-saving class. The solution may be found in the establishment of a special school or a separate department, with sight-saving methods, under the control of the School for the Blind, and subsidised by the State. Under present conditions a large percentage of the visually defective children have to be educated in the ordinary school, where they are handicapped, or get no schooling at all, or go to a school for the blind, which creates prejudice against them later when in search of employment. Consequently, the ideal is, as I have said, a separate institution, but under the technical supervision and administration of the School for the Blind.

For admission to a school for the blind in Britain, the criterion was 'too blind to read the ordinary school books used by children', which in practice leaves it a question of interpretation. This definition was the prelude in 1908 to the 'Myope or Short-sighted Class' which was not limited to short-sighted individuals only, but gradually developed into classes for the partially blind. Provision was made in the ordinary primary schools in Germany for these classes, and there it was that they were first known as 'sight-saving classes'.

Although it was not considered the function of a school for the blind to make provision for such sight-saving classes, partly for economic reasons, nevertheless the necessary facilities were provided at the School for the Blind at Worcester, discontinued for a time and subsequently reorganised.

It has been my function to visit the school at regular intervals during the past twenty years and render ophthalmic service to all those who may require it. This enabled me to classify and follow up both those pupils who qualified for registration under the Act, those deferred for re-examination and those who may not qualify for registration even after reaching the age of 19 years and for whom there is no adequate provision for instruction in the ordinary primary school.

Out of nearly 700 inmates of the School for the Blind examined over a number of years 24% were found to be totally blind or with only perception of light in one eye or both; 14% had visual acuity of hand-movements, and 52% were classed as visually defective of whom some may ultimately qualify for registration.

CAUSES OF BLINDNESS

Since the introduction of Act 11 of 1936 it became possible to obtain correct and detailed records of the causes of blindness. Registration under the act is not compulsory but the examination by an ophthalmic surgeon is compulsory for the purpose of registration, except in the case of the Bantu.

Of 680 cases of blindness classified it was found that 44 percent were of congenital or hereditary origin, Consanguinity accounted for 17 percent of these, Ophthalmia 13 percent, Trauma 7 percent, Cataract, (congenital) 6 percent, Glaucoma (congenital) or Buphthalmos 1·3 percent. For these figures and extracts I am indebted to the Principal of the School, Dr. P. E. Biesenbach, who advocates the following methods of combating blindness:

(1) Compiling exact and complete statistics;
(2) An increase in the number of social workers;
(3) Avoiding consanguineous marriages;

(4) More attention by the medical profession to genetics and also enlightenment to the public.

More than 30% of albinos with nystagmus and the consequent defective development of vision can be traced to consanguineous parents. The chances of recessive characters are greater amongst such off-spring of parents showing such characteristics. Many of these hereditary conditions reveal themselves before adulthood.

From the early school-going age of the child teaching and training facilities exist at the School for the Blind at Worcester, the only school of its kind in Africa for Europeans, and where, incidentally, the Diamond Jubilee year of the school will be celebrated during the present month.

The following paragraph is from a message by the Governor-General to the School on the 75th anniversary of the foundation of the Institute for the Blind.

'Gestig deur lede van die Nederduitse Gereformeerde Kerk in 'n gees van christelike geloof, nederige diens en innige pligs- en verantwoordelikheids gevoel, het die skool gegroei totdat dit vandag 'n nasionale inrigting is, en het aansporing gegee tot vordering in ander rigtings in die werk vir Blindes en Dowes in hierdie land.'

A further extract from the brochure that was issued reads as follows:

'Die skool het vandag so 'n omvang dat dit verreweg nie meer 'n onderneming is wat die Kerk met sy klompie vrywillige ondersteuners alleen kan dra nie. Die Staat dra nou ruim 75% van die uitgawes by!'

The primary aim and object of the School for the Blind is to produce happy and useful citizens . . . and in this respect the co-operation of the parents from early childhood is essential. A careful study is made of each individual child, who is also taught to make the best use of his senses in the world around him.

To attain this adaptation requires from the teachers not only tact and patience but, also that attitude which makes of a work, a life's vocation.

Since 1936 the school has been in possession of its own Braille printing press. The opinion has been expressed that the Afrikaans Braille system surpasses many Braille systems in suitability for teaching the blind, and when it is mastered the pupil is able to take his own notes in a class. During the past ten years pupils have been able to prepare themselves for the Senior Certificate Examination, and can even carry on to higher academic achievements.

About 28 years ago a School for the Blind was established at Athlone for the non-European child where apparently the largest percentage require sight-saving methods of instruction.

Diverting briefly from the factors under consideration it may be stated that in the absence of ocular defects and other complications, the daily use of the eyes should be a subconscious function. In the past they were adapted for much simpler purposes than the high demands of adjustment required in our present civilised form of life. Should adjustment in the focus be necessary to obtain a high degree of vocational accuracy some assistance will be necessary to meet the demands and overcome the resulting eye-strain so common now at all social levels.

SPECTACLES

According to an ancient legend the Chinese were the first to wear spectacles, the frames of which were made of tortoise-shell and the lenses of rock crystal. They were not necessarily worn to improve vision or relieve eye-strain, but signified intelligence and high rank, while the wearer was supposed to be blessed with good fortune and long life.

An Italian is claimed to be the first to have discovered the use of spectacles for the actual improvement of visual acuity, somewhere in the thirteenth century. The inscription on his tombstone reads:

'Here lies Salvino d'Armato of Florence, the inventor of Spectacles. God forgive him his sins. Died in the year 1317'.

Remarkable progress has been made since those days, both in the manufacture of lenses and frames and in the introduction of contact lenses. Only a proportion of individuals can tolerate these contact lenses for long, depending on the accuracy of the fitting and the mathematical regularity in the scleral curvature. There may also be psychological factors concerned. The usual time for comfortable wear is about six hours. The lenses are extremely useful, for instance in certain sports, such as swimming and hurdling, and to those who work in rainy or steamy conditions. They are perhaps most frequently worn for cosmetic reasons. There was, however, the lady with a high degree of myopia, who assured me that her spectacles served as her sole companion by day and by night. Such cannot be claimed for the contact lens!

In the case of an intransparent cornea, causing loss of visual acuity, improvement may be obtained by keratoplasty (corneal grafting). Selected cases require the obvious local as well as a general examination of the patient, for one or more coughs, just as in a cataract operation, may turn a good prognosis into complete disaster. There is in addition the usual nervous and general mental outlook of the patient to be considered. It has been made legally possible to establish central eye-banks, where the necessary eyes can be obtained at short notice. These eyes, from which the corneas or corneal discs are obtained for grafting, can be kept in a refrigerator for a certain length of time only.

Notwithstanding the wonderful discoveries made by medical science in recent years, which include the preserving and restoring of useful vision, there will remain amongst us the inevitable number of blind persons who will require assistance in many different ways. Such assistance will not only consist in the establishment of institutions for their education and training, but also in fostering a feeling of security for their useful development, not only in order to earn a living, but also to obtain an assured place in society.

Our thoughts and deeds should always turn towards the prevention of blindness for

'He that is stricken blind cannot forget the precious treasure of eyesight lost.'

Suid-Afrikaanse Tydskrif vir Geneeskunde
South African Medical Journal

EDITORIAL

ION EXCHANGE

The technical and therapeutic uses of ion exchangers have recently been considered from different angles,[1, 2, 3] some of which are of interest to the physician.

The ion-exchange resins have been used in therapeutics for a few years. They have a definite place in therapy which, however, is rather difficult to assess. The cation-exchange resins have been most used, the two main types being the sulphonated and carboxylic resins. Both have the same physico-chemical reactions. In the upper part of the alimentary canal the high proportion of sodium in the digestive juices will bind with resin to a greater degree than will potassium. In the colon however the resin will take up potassium, as also calcium and magnesium, and release its sodium. It has been demonstrated that purgatives increase the amount of sodium relative to that of potassium in the stool by decreasing the sojourn of resin in the colon. Resins which are in the hydrogen or ammonium form are liable to produce an acidosis, but neither the potassium nor sodium forms do this.

The conditions in which the resins have been most used are the following: cardiac failure, the nephrotic syndrome, toxaemia of pregnancy, cirrhosis of the liver, and hypertension. The fundamental action is the removal of sodium from the body so as to reduce the oedema; this is not so in hypertension without oedema, and here the usefulness is in general not very great. In cardiac failure prolonged therapy may be instituted, but preferably the administration of the resins should be intermittent (a few months at a time), because of the side-effects, such as loss of calcium, that tend to occur. In the presence of digitalis the serum-potassium level must not be lowered since this intensifies the action of the glycosides. The removal of sodium, intensified by other measures, such as the use of mercurial diuretics, may produce features of the low-salt syndrome. In nephrosis especially, the removal of sodium by resin may leave dangerously low sodium-levels in the body. In cirrhosis of the liver there is a special danger with resin in the ammonium form arising out of the fact that the ammonium liberated may not be metabolized to

VAN DIE REDAKSIE

IOONRUILING

Die tegniese en terapeutiese gebruike van ioonuitruilers is onlangs uit verskillende gesigspunte oorweeg,[1,2,3] sommige waarvan vir die internis van belang is.

Die ioonruilingsharpuise word al vir 'n paar jaar geneeskundig gebruik. Hulle neem 'n definitiewe plek by geneeskundige behandeling in wat egter moeilik is om te bepaal. Daar is meestal van die katioonruilingsharpuise gebruik gemaak, die twee hooftipes waarvan die gesulfoneerde en karboksiel-harpuise is. Beide het dieselfde fisies-chemiese reaksies. In die boonste gedeelte van die spysverteringskanaal sal die hoë proporsie van natrium in die spysverteringsappe tot 'n groter mate met harpuis verbind, as wat kalium dit sal doen. In die dikderm egter sal die harpuis kalium, asook kalsium en magnesium opneem, en sy natrium vrystel. Dit is gedemonstreer dat purgeermiddels—deur die tyd wat die harpuis in die dikderm bly, te verkort—die hoeveelheid natrium relatief tot kalium in die ontlasting vermeerder. Harpuise in waterstof- of ammonia-vorm is geneig om 'n asidose te veroorsaak maar harpuise in kalium- of natriumvorm is nie daartoe geneig nie.

Die kondisies waarby die harpuise die meeste gebruik was, is die volgende: hartverswakking, die nefrotiese sindroom, bloedvergifting by swangerskap, sirrose van die lewer, en drukverhoging. Die fundamentele werking is die verwydering van natrium uit die liggaam om die edeem te verminder; dit geld egter nie by drukverhoging sonder edeem nie, en hier is hul nie van veel waarde nie. By hartverswakking kan langdurige terapie ingestel word, maar die toediening van die harpuise moet liefs met tussenposes ('n paar maande op 'n slag) geskied, aangesien sy-effekte, soos byvoorbeeld verlies van kalsium, geneig is om voor te kom. As digitalis aanwesig is, moet die serum-kalium-vlak nie verlaag word nie, aangesien dit die werking van die glikosiede laat toeneem. Die verwydering van natrium, verhoog deur ander maatreëls, soos byvoorbeeld die gebruik van kwik-diuretiese middels, mag tekens van lae-soutsindroom voortbring. Veral by nefrose mag die verwydering van natrium deur harpuis die natrium in die liggaam tot 'n gevaarlike lae peil afbring. By sirrose van die lewer bestaan daar 'n buitengewone gevaar aan die gebruik van harpuis in ammonia-vorm omdat die ammonia wat vrygestel word, miskien nie tot ureum gemetaboliseer word nie, en dit mag ernstige toksiese simptome oplewer. Indien harpuise vir lang tydperke gebruik word, is dit nodig dat bloed-elek-

urea and may produce severe toxic symptoms. The use of the resins necessitates frequent blood-electrolyte studies if continued for prolonged periods. Their main use will be as an adjuvant or temporary alternative to safer and better established methods of treatment.

There are many uses for resins outside clinical medicine. A classical example is the softening of hard water, where ions such as calcium and magnesium need to be removed; new synthetic exchanger-resins have been developed which have high speed of reaction, high capacity, and long life. In the electroplating industry the chromic-acid baths can be freed of metallic ions such as copper, iron, manganese and aluminium by the use of cation exchangers of a type not attacked by chromic acid. Calcium can be removed from cow's milk by cation exchangers in the sodium (or potassium) form providing dietetic milk which is flocculent and readily digestible in the infant stomach. The acid of fruit juices and wines can be reduced by anion exchange resins.

The ion exchangers have a number of applications in analytical chemistry. They have been put to use in the analysis of drugs, many techniques and methods of assay being described in the literature for the determination of local anaesthetics, sympathomimetic amines and other drugs in tablets and solutions. Vitamins can be separated from other substances and from one another by ion exchangers. By such methods aneurine (vitamin B1) has been detected in urine, blood, and cereals. The other vitamin-B factors can be separated and then quantitatively determined. Ascorbic acid, folic acid and cyanocobalamin (vitamin B12) have been extracted and purified by similar methods. The techniques are being used in the preparation of antibiotics. Penicillin, for example, can be separated from crude culture-filtrates and freed from toxic matter; streptomycin and other antibiotics are being elaborated and purified, or quantitatively determined, with the aid of ion exchangers. There is a wide range of applications for these agents and many more useful developments are to be expected.

1. Büchi, J. (1956): J. Pharm. Pharmacol., **8**, 369.
2. Schultz, O-E. (1956): *Ibid.*, **8**, 382.
3. Payne, W. W. (1956): *Ibid.*, **8**, 397.

trolitiese studies heel dikwels gedoen word. Hulle sal hoofsaaklik as hulpmiddels by of tydelike noodkeuse vir veiliger en meer-gevestigde metodes van behandeling gebruik word.

Behalwe by kliniese medisyne, het harpuise nog baie ander gebruike. 'n Klassieke voorbeeld is die sagmaak van harde water, waar dit nodig is dat ione, soos byvoorbeeld kalsium en magnesium, verwyder moet word. Nuwe sintetiese uitruilingsharpuise met 'n hoë spoedreaksie, hoë kapasiteit en lang lewensduur, is ontwikkel. By die versilweringsindustrie kan die chroomsuurbaddens bevry word van sulke metaal-ione soos koper, yster, mangaan en aluminium deur 'n tipe katioonuitruiler te gebruik wat nie deur chroomsuur aangetas word nie. Deur katioonuitruilers in natrium- (of kalium-) vorm te gebruik, kan kalsium uit koeimelk verwyder word en 'n voedsame, vlokkige melk word verskaf, wat maklik deur 'n baba se maag verteer kan word. Die sure van vrugtesappe en wyn kan deur anioonuitruilingsharpuise verminder word.

Die ioonuitruilers het 'n aantal gebruike in analitiese chemie. Hulle word gebruik by ontleding van geneesmiddels, en in die literatuur word baie tegnieke en toetsmiddels vir die bepaling van plaaslike verdowingsmiddels, simpatomimetiese amiene en ander middels in tablette of oplossings, beskryf. Vitamine kan van ander bestanddele en van mekaar deur ioonuitruilers geskei word. Deur dergelike metodes is aneurien (vitamine-B1) in urien, bloed en graansoorte opgespoor. Die ander vitamine-B-faktore kan geskei en dan kwantitatief bepaal word. Askorbiensuur, foliumsuur en *cyanocobalamin* (vitamin-B12) is deur soortgelyke metodes uitgeloog en gesuiwer. Hierdie tegnieke word by die vervaardiging van antibiotika gebruik. Penisillien byvoorbeeld kan van ongesuiwerde kultuur-filtrate geskei en van toksiese stowwe bevry word; streptomisien en ander antibiotika word met behulp van ioonuitruilers verwerk, gesuiwer of kwantitatief bepaal. Daar is 'n wye omvang vir die aanwending van hierdie middels en baie meer nuttige ontwikkelings kan verwag word.

1. Buchi, J. (1956): J. Pharm. Pharmacol., **8**, 369.
2. Schultz, O-E. (1956): *Ibid.*, **8**, 382.
3. Payne, W. W. (1956): *Ibid.*, **8**, 397.

NEW ARTERIES FOR OLD

The replacement of diseased and damaged arteries is now an established practice. Arterial 'banks' were first formed in the United States about 7 years ago, and since then a number of new techniques and uses have considerably widened the scope of this branch of vascular surgery. Like other modern surgical advances, this development has been largely indebted to improved ancillary services. Angiography has enabled radiologists to pin-point the site of disease or occlusion; chemotherapy has all but eliminated infection; and the anaesthetist's approach to the control of blood volume reduces the risk of circulatory failure and fatal blood-loss, as his techniques provide the surgeon with a relatively bloodless field.

The most satisfactory results have been obtained with diseases or injury of the large arteries. An American series of over 200 aortic transplants showed excellent results,[1] and 27 of the 36 resections for aortic aneurysm recently reported by Rob *et al.* from London were considered successful.[2] Dos Santos was the first worker to incise the wall of the vessel and 'disobliterate' the lumen by shelling out the obstructing clot;[3] but this procedure was complicated by the development of post-operative thrombosis and, by and large, the operation cannot be called a success. In fact, the accepted guiding principle is that if the intima is severely damaged or diseased it is better to resect the entire area involved: otherwise the risk of stenosis from scarring or thrombosis

is too great. A graft is then inserted, made from either a human artery or vein, or some synthetic material.

Although the results obtained with the use of arterial homografts have not been disappointing, there are sufficient disadvantages and complications involved to justify a search for a better substitute. Most reconstructive vascular surgery is performed on the aorta and there is no artery of equal-sized lumen in the human body that can be spared. Large easily-accessible veins such as the internal saphenous and the superficial femoral can also be used with apparent success,[4] since the tissue acts merely as a scaffolding for fibroblastic proliferation and not as a living graft. Neither type of vessel is easily obtained, for the cadaver must be that of a person who was not too advanced in years and it must be fresh and free from infection or disease. Strict control of infection must be practised with removal and insertion; and even then cases are reported of these freeze-dried or quick-frozen sections becoming obstructed by a clot, dilating, and finally disintegrating.[5]

On the whole, plastic tubes are better, and the present trend of thought and practice seems to indicate that they will eventually replace homografts altogether.[6] Already a great variety of these substances are available, best known by their proprietary names of Dactron, Orlon (both water-repellant), Ivalon, sponge, and polyvinyl sheets. Their use has heralded its own research problems. Since the tube must act as a dead scaffolding for fibroblastic proliferation, a mesh-work is better than an impermeable substance, but if the holes are larger than 100μ, then oozing can be expected. Moreover, plastic tubes are liable to kink at flexure points such as the axilla, groin and popliteal fossa, with resulting 'wrinkle' thrombosis. At present research is being carried out with 'concertina-ed' nylon tubes which take up the slack at the bends. In truth, the use of these substances has opened up a new research phase in vascular surgery. This in turn cannot fail to affect the scope of the surgeon. Already he can replace aneurysms and congenital abnormalities such as coarctation of the aorta, and repair the damage of severe trauma—all conditions that were previously potentially fatal. Furthermore, block dissection of a malignant mass can now be undertaken without the dread of irreparably tearing an involved blood-vessel. Perhaps even more striking advances will be possible when the ideal synthetic procedure is perfected.

1. DeBakey, M. E. and Cooley, D. A. (1954): *Ann. Surg.*, **139**, 763.
2. Rob, C. G., Eastcott, H. H. G. and Owen, H. (1956): *Brit. J. Surg.*, **43**, 449.
3. Quoted in Editorial (1956): Lancet, **2**, 26.
4. Hughes, C. W. (1955): *Ann. Surg.*, **141**, 297.
5. Hamblin, R. G. and Lord, J. W. (1954): *J. Amer. Med. Assoc.*, **155**, 1406.
6. Annotation (1956): Lancet, **1**, 795.

INDUCTION OF LABOUR*

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A function common to every hollow muscular organ is the ability to empty itself of its contents. The stimuli to empty and the mechanisms involved vary from one organ to another and are specific for the particular structure concerned. The uterus is unique among these structures because of its very specialized function of harbouring and protecting the foetus until it is sufficiently mature to enjoy an independant existence. On this all-important function depends the survival of the species. The anatomy of the uterus varies from one species to another and so does its mode of action. In spite of its designation of 'uterus simplex' and apparent simplicity of structure, the physiology of the human uterus in pregnancy and labour is largely unknown, and investigations made into its normal functions have been beset with problems that are peculiarly difficult to overcome.

HISTORY

Efforts to stimulate the human pregnant uterus to empty itself have been made since the earliest recorded civilization, mainly with the object of procuring abortion. Instrumental dilatation of the cervix was used from the earliest times and Aetius, in the 6th century, employed sponge tents to dilate the cervix in cases where the foetus was dead. Surgical induction by dilatation of the cervix and rupture of the forewaters—often known as the 'English' method of induction since Macaulay introduced this method into English obstetrics in 1756—is in actual fact a method that goes back beyond English civilization, for Soranus of Ephesus (A.D. 138) is known to have used it.

The use of ecbolics, originating in the very distant past, has been handed down through the centuries and forms the background for medical induction as we know it today. The effect of ergot on the pregnant uterus was discovered by the physicians of Marburg in 1596, but the 'wise women' who practiced as midwives knew of its use long before. John Stearns, in 1807, was the first physician to use ergot rationally in obstetrics. In 1909 Blair Bell discovered the oxytocic properties of an extract of the posterior lobe of the pituitary gland, which subsequently became known as pituitrin. Use was made of this substance in medical inductions, but it was only in 1920 that Watson[1] standardized the modern medical method of induction as a form of treatment.

This method revolves around the oxytocic action of pitocin, given by intermittent intramuscular injections

* A paper read at the South African Obstetrical and Gynaecological Congress, Durban, July 1955.

or by the intravenous route as crystallized today in the pitocin drip method. As adjuncts castor oil, the hot bath, the enema, quinine and stilboestrol are used. Castor oil, the enema and the hot bath are all harmless and well-tried adjuncts that do have an indirect stimulating action on an irritable uterus.

The effect of quinine on the pregnant uterus was first described by Porak[2] in 1878, and 2 years later he and Runge reported that the liquor amnii was often found meconium-stained after the use of this drug. Quinine appears to increase the uterine tone, resulting in a greater number of successful medical inductions. But we reserve its use today for cases in which the foetus is known to be dead or abnormal, since in our experience large doses produce an increased incidence of foetal distress in labour and are sometimes associated with an otherwise unexplained stillbirth.

In 1923 Allen and Doisy discovered oestrin, and it became apparent that uterine muscular activity was increased by its administration. Jeffcoate found that better response to pitocin was obtained when oestrogens were given. Until very recently, we have used stilboestrol as a preamble to all medical inductions. It exerts no harmful effects and probably has a beneficial influence on uterine action. A constant finding where large doses have been employed and where the induction has been successful, is that lactation is delayed, sometimes to the 5th or 6th day of the puerperium. However, in the normal case at term the oestrogen level in the blood is already very high, and the giving of further oestrogen in the form of stilboestrol probably serves no good purpose. But in cases where induction is attempted well before term, the blood-oestrogen level is found to be considerably lower than at term, and it is in these patients that there would appear to be a very logical place for giving stilboestrol as a routine with inductions.

PHYSIOLOGY OF ONSET OF LABOUR

We do not yet know the mechanism by which normal labour is initiated. Hippocrates, 2,500 years ago, wrote of birds: 'When there is no more food for the young one in the egg and it has nothing on which to live, it makes violent movements, searches for food and breaks the membranes.' He believed that much the same thing occured in mammals, including human beings. Today we no longer believe that foetal activity *per se* plays any part in the onset of labour. Malpas,[3] however, has presented the view that the foetus does influence the duration of pregnancy in some way. He points out that the onset of labour is delayed where the uterus contains an anencephalic foetus, and it has been shown that the adrenal cortex of the anencephalic foetus differs from that in the normal foetus. It is accepted today that the placenta wields considerable influence by its production of hormones. The bulk of the uterine contents, made up mainly by the foetus and liquor amnii, must also play some subsidiary role as evidenced by the premature onset of labour in cases of multiple pregnancy and hydramnios.

We know that the uterus contracts and relaxes from an early stage of pregnancy—the Braxton Hicks contractions—and that these continue throughout pregnancy, gradually becoming stronger and more obvious until they eventually culminate in true labour pains. In the latter part of pregnancy they are responsible for stretching and forming the lower segment and for taking up and preparing the cervix. Hence labour, as we recognize it, is merely the end result of a process that starts well before term.

Pitocin has but little effect on the myometrium early on in pregnancy, but the nearer term approaches the more effective does this substance become in stimulating uterine contractions. Before the stage for labour is finally set and ready, pitocin will often produce strong and regular contractions indistinguishable from true labour contractions, except that they are usually painless. These will cease as the effect of pitocin wears off, indicating that some 'catalyst' is absent or deficient in the chain reaction which would maintain the process of true labour. Nevertheless, these so-called pitocin contractions do achieve a certain effect on the uterus in that they often 'ripen' an uneffaced cervix.

Towards the latter part of pregnancy there is a gradual withdrawal of those hormonal factors, such as progesterone and progesterone-like substances from the placenta, which exert an inhibitory influence on the myometrium. Oestrogens, again derived mainly from the placenta, are known to increase in concentration, and related to this rise in the blood-oestrogen level is an increased uterine contractility. Oestrogens bring about favourable metabolic conditions in the myometrium. They cause an increase in its glycogen and phosphocreatinine content (both of which are necessary for efficient muscular activity) and actomyosin content and in addition, the glutathione and calcium content are increased to maximum concentration, both of which have been identified with a high degree of uterine contractility.

As pregnancy advances the curvature of various parts of the uterus undergo a progressive change, in which the lower segment and cervix are most involved. It is known that the tension in any part of the uterus is proportional to the square of the principal radii of curvature of that part. Reynolds[4] has shown that as a result of these changes in shape, the tension in the fundus of the uterus is about 3 times what it is in the lower segment and cervix. Strong rhythmic contractions thus cause retraction of the myometrium towards the fundus, with resulting stretching and thinning of the lower segment and effacement of the cervix. With rupture of the membranes and escape of the liquor amnii, this difference in tension between upper segment and lower segment becomes even more marked and therefore more favourable for taking up the lower segment and cervix. In addition, the pressure exerted by contractions is no longer transmitted to the centre of gravity of the products of conception, as occurs when the foetus is a floating object, but it can now press down the presenting part directly. We know that if the presenting part is a well-fitting one, then this in turn stimulates better uterine action and lends itself to more efficient dilatation of the cervix.

Rupture of the membranes with escape of the liquor, therefore, enhances influences which are favourable to good uterine action.

It has become quite clear that there is no single cause for the onset of labour. Rather, the stage for labour is set by numerous factors, and when this stage is finally prepared, any correctly applied stimulus will upset the balance and precipitate a major reaction in the form of labour. The two main stimuli used in induction of labour in the series of cases reported in this article are firstly pitocin, and secondly the artificial rupture of the forewaters.

Though pitocin is a much safer substance to use than pituitrin—which contains the vasopressor factor as well as the oxytocic factor—it should nevertheless be used with the greatest respect. Its injudicious use may result in tonic contraction, or actual rupture, of the uterus, as is well known. It has also been associated with collapse and shock of some few patients as recorded in the literature. Recently we have had a case of heart-block following on its intravenous administration for postpartum haemorrhage. These dangerous side-effects may be due to the small amounts of vasopressin present in pitocin, for despite purification, pitocin still contains 4·7% of the vasopressor factor.[5, 6] A synthetic form of pitocin has recently made its appearance. The oxytocic factor of the posterior pituitary lobe is a polypeptide, and this was synthesized by Du Vigneaud[7] in 1953. Small quantities have been prepared by Messrs. Sandoz under the name of 'Syntocinon' or O.T.S. 68, and we have had the opportunity of using this substance in 70 inductions. The effects and results obtained were exactly similar to those obtained with the natural substance pitocin. This confirms the findings of Nixon *et al.*[8] of University College Hospital, London, and Francis and Francis[9] of Liverpool. This new substance has the advantage of purity and accurate standardization, and it should be free of the dangerous side-effects which sometimes occur with the natural oxytocin.

Ergot and its derivatives are not used for inducing labour, but are reserved for use after the delivery of the placenta.

METHODS OF INDUCTION

The method of *medical induction* employed at the Queen Victoria Hospital, Johannesburg, has been as follows:

The patient is given 5 mg. of stilboestrol orally at 8 p.m. the night before the induction, and this dose is followed by 10 mg. 1 hour later. (It would seem that better effects could be anticipated if the stilboestrol were given at least 24 hours before the remainder of the induction). The following morning at 5 a.m. 1½ oz. of castor oil are given. Once the oil has worked, an enema is administered and this is followed by a hot bath. Half-an-hour after the bath, if there are no contractions, a test dose of one unit of pitocin is given by intramuscular injection. If there are no untoward effects then 2 units of pitocin are given at ½-hourly intervals until a total of 8 doses have been given or until uterine contractions have become established.

Five units of pitocin in 1,000 c.c. of dextrose water or, more recently, in a vacolitre of 10% invert sugar, is used for the *intravenous pitocin drip method of induction.* This is run in at a slow rate (15 to 20 drops per minute) for a test period of 20 minutes, and it is then speeded up to not more than 40 drops per minute, according to the uterine response obtained. The administration of pitocin intravenously by this method merely replaces the intermittent injections of pitocin as in the medical induction described above. The same adjuncts are used as with an ordinary medical induction.

These cases must, of course, be under constant observation by a trained person. Pitocin should not be used, whether by intermittent injections or by the intravenous drip method, if there is definite cephalo-pelvic disproportion present, and its use may be hazardous if the uterus has been scarred by a previous Caesarean section or hysterotomy.

An induction is occasionally indicated where one cannot be sure whether or not a degree of disproportion really exists. A relatively common example is the primipara who is postmature, and where one finds a non-engaged foetal head in the occipito-posterior position. With due apprehension, these cases have been induced by medical induction and the labour has been treated as a trial of labour. No untoward results have as yet occured and in the series of inductions here discussed only a very small proportion of the cases were terminated by Caesarean section for disproportion.

Two hundred years ago premature induction of labour was introduced into English obstetrics by Macaulay for the treatment of disproportion. Today this practice should be considered unjustifiable as Caesarean section has become a simple and safe procedure.

Of the types of *surgical induction* described in the older literature, the only methods that have really survived today are, firstly, the stripping of the membranes from around the internal os with the rupture of the forewaters and secondly, the high puncture of the membranes, originally described by Hamilton[10] in 1810 and today carried out with the Drew-Smythe catheter. The former appears to be the simplest and the most effective form of surgical induction. Before this procedure is attempted the cervix should have become effaced and slightly dilated (the 'ripe' cervix), the vertex must be presenting, and it must be well applied to the cervix.

THE INDICATIONS FOR INDUCTION OF LABOUR

In the 4 years 1952-55 there were 16,030 deliveries in the Queen Victoria Hospital and on its district. In these, 850 patients (5·3%) received an induction of labour.

Only true obstetrical indications warrant the performance of an induction of labour and the convenience of the doctor or patient is not considered an adequate indication.

The indications for induction will be presented in 2 groups. The *first group* consists of the 5 commonest indications and accounts for 95·5% of all the patients induced (Table I). The second group consists of a long and varied list of miscellaneous indications which account for only 4·5% of the patients induced. The 5 indications in group 1 are considered below:

1. *Toxaemia of pregnancy* is the major indication for inducing labour. Though doubt and caution have often been expressed in the use of pitocin in cases of

TABLE I. INDICATIONS FOR INDUCTION OF LABOUR (GROUP 1)

Indication	*No. of Cases*	*Percentage*	
1. Toxaemia of pregnancy	390	45·9	
2. Postmaturity	301	35·4	
3. Premature rupture of membranes	58	6·8	95·5
4. Rh antibodies	41	4·8	
5. Intra-uterine death	22	2·6	

pre-eclampsia, we have not yet seen any untoward effect from its use and, in the doses used, we have found pitocin to have no significant effect on the blood pressure. In suitable cases of pre-eclampsia, where the cervix is found to be long and uneffaced, intravenous pitocin drips have been used to 'ripen' the cervix. Surgical inductions have then been possible, thus avoiding the use of Caesarean section in these cases.

As it is our policy not to allow an eclamptic patient to continue with her pregnancy, labour is induced once the eclampsia has been controlled for 24 hours. This is usually done by the artificial rupture of the forewaters, followed by a pitocin drip if necessary.

2. *Postmaturity* has come to the fore in recent years mainly because of its association with ageing of the placenta and resulting placental insufficiency. The last menstrual period, the regularity of the menstrual cycle, the date of quickening and clinical findings should all be thoroughly checked before deciding on an induction; otherwise unnecessary inductions will certainly be done. The observations recorded at the first visit to the antenatal clinic usually prove the most useful for checking the duration of pregnancy. A 14-weeks pregnancy can easily be distinguished from an 18-weeks one, whereas it is not easy or, indeed, even possible to distinguish a 38-weeks pregnancy from a 42 weeks one purely by clinical examination.

If it is decided that the gestation has really gone 2 weeks beyond the expected date of delivery, then the patient is induced medically, which is the method *par excellence* for this type of case. If labour is not precipitated by medical induction then it is unlikely that the pregnancy is postmature. Surgical induction is seldom employed for alleged postmaturity, unless there is some other indication as well.

There is a tendency today to give inductions too frequently and too lightly for postmaturity, without first checking very carefully all the information available. Of the 301 patients induced for postmaturity, 235 (78%) were successfully induced and the remaining 66 patients (22%) commenced spontaneous labour at a later date.

3. *Premature rupture of the membranes*, where labour has not commenced spontaneously after 24 hours and where the foetus is judged to be over 5½ pounds, is treated by medical induction or pitocin drip.

4. *Rh antibodies*. I regard this as an indication for induction of labour in the 38th week of pregnancy, but other members of the hospital staff do not hold this view. The pendulum has swung from the one extreme of terminating pregnancy at 35 or 36 weeks to the other extreme of allowing pregnancy to proceed to full term. One feels, however, that at 38 weeks the degree of prematurity is so slight that it cannot be considered an important contra-indication to removing the foetus from further exposure to unfavourable influences *in utero*. Certainly everyone must agree that to allow these patients to proceed beyond term must be considered foolhardy.

5. *Intra-uterine death* is treated by a medical induction or an intravenous pitocin drip. Surgical induction is not done because of the very real danger of intra-uterine infection in the presence of a dead foetus. Several cases are now on record where surgical induction in these cases resulted in the foetus being infected with gas-forming organisms.

The *second group* of indications (Table II) accounts for only 4·5% of all the patients induced.

TABLE II. INDICATIONS FOR INDUCTION OF LABOUR (GROUP 2)

Indication	*No. of Cases*
Anencephaly	8
Previous stillbirth (? placental insufficiency)	8
Diabetes	6
Albuminuria (unknown etiology)	3
Chronic nephritis	3
Hydramnios	2
Unstable presentation	2
Severe vomiting	1
Severe recurrent pyelitis	1
? Circumvallate placenta with ruptured membranes	1
Perinephric abcess	1
Recurrent epileptic fits	1
Carcinoma of breast	1

The *age distribution* of the 850 patients induced was very similar to that for all patients delivered in the hospital. In this series, 365 patients (43%) were primiparae and 485 (57%) were multiparae. It has often been reported that a higher success rate is achieved with inductions in the multiparous patient. However, in this group induction of labour succeeded in 87% of primiparae and in 88·5% of multiparae, thus showing no significant difference.

The *duration of pregnancy* at the time these inductions were done is shown in Table III. Thus, 91·4% of the patients were 36 weeks or more when induction was carried out.

TABLE III. DURATION OF PREGNANCY AT THE TIME OF INDUCTION

Duration of Pregnancy	*No. of Cases*	*Percentage*
Less than 32 weeks	15	1·8
32nd and 33rd week	19	2·3
34th and 35th week	38	4·5
36th and 37th week	101	11·9
38th to 41st week	370	43·5
42 weeks and over	307	36
Total	850	100

RESULTS

Success of Induction

Labour was successfully precipitated in 746 patients (or 87·8%) of the 850 patients induced. In the remaining 104 (or 12·2%) labour commenced spontaneously at a later date. The success rate following on each type

of induction used is shown in Table IV. Thus the lowest success rate is associated with medical inductions;

TABLE IV. SUCCESS RATES OF TYPES OF INDUCTION

	Medical Induction	*Pitocin Drip*	*Surgical Induction*	*Combined Method**
No. of patients induced ..	681	118	—	—
No. of inductions:				
given	898	136	232	28
successful	426	83	209	28
% successful	47	61	90	100
unsuccessful	472	53	23	—
% unsuccessful	53	39	10	—

* Pitocin drip with surgical induction.

it is somewhat higher with pitocin drips, while surgical inductions and inductions by the combined method the success rate is very high. It must be remembered, however, that surgical inductions are only done when the cervix is 'ripe'—that is, when the uterus is about primed for labour. This may partly account for the high success rate obtained. Conversely, when the cervix is long and uneffaced the uterus is usually not ready for labour, and so one must rely on medical inductions or induction by the pitocin drip method and the results would naturally be less spectacular.

Duration of Induced Labours

The duration of labour in the 746 patients in whom labour was successfully precipitated has been analysed according to the type of induction used, and this analysis is presented in Table V. Thus 40·5% of all induced labours were rapid, being of less than 6 hours' duration; 54·3% were of average duration; and 4·1% were prolonged labours, lasting over 24 hours. The incidence for prolonged labour in all cases delivered in the hospital is 4·16%, so that from this series at least, there is no evidence to support the claim that inductions cause an abnormally high proportion of uterine inertia. Of the 31 cases of prolonged labour, in only 5 did labour last over 48 hours. Of these 5, 3 followed on surgical induction, 1 on a medical induction and 1 on induction by pitocin drip.

From Table V it will be noticed that in 8 patients labour was successfully induced and *Caesarean section* became necessary during the labour. The reasons for these Caesarean sections were as follows:

1. Three for foetal distress in the first stage of labour. These labours respectively followed on a medical induction, a pitocin drip and induction by the combined method.
2. Three for failed trail of labour due to cephalo-pelvic disproportion.
3. One for unsuspected placenta praevia, which commenced to bleed in labour.
4. One for tenderness over the lower segment in a patient who had had a lower-segment Caesarean section previously (the head was deeply engaged and all appeared satisfactory at the time the induction was performed).

POSTPARTUM HAEMORRHAGE

Induced labours were found to be associated with a marked increase in the incidence of postpartum haemorrhage. Of the 746 patients successfully induced, 138 suffered a blood loss of 20 oz. or more in the third stage of labour—that is, a postpartum haemorrhage rate of 18·5%. The incidence was highest in labours which followed on pitocin drips (24%), while it was lowest in labours that followed on the combined method of induction (7·2%). The reason for this higher postpartum haemorrhage rate is not at all clear, but it indicates that the contraction and retraction mechanism of the uterine muscle is in some way deficient in the third stage of labour. Oxytocics are only used after the placenta has been delivered, but this very high PPH rate would seem to indicate that oxytocics should as a routine be used with the birth of the anterior shoulder in all cases of induced labour, particularly those induced by pitocin drips.

Maternal and Infant Mortality

There was one maternal death among the 850 patients induced, but this was in no way related to the induction. It occurred in an unbooked patient who was admitted with very severe pre-eclampsia. Labour was induced by surgical induction and the patient died 53 hours after delivery from acute pulmonary oedema.

No untoward reactions were recorded in any of the mothers induced.

In this series of cases, 759 infants were delivered, there being 13 pairs of twins. There were 3 abortions, the pregnancies being only 24-26 weeks, and all 3 were associated with severe pre-eclampsia.

There were 47 stillbirths, 24 being macerated and 23 fresh stillbirths. The macerated stillbirths were deaths in utero that had occurred before induction was attempted. The details of the 23 fresh stillbirths are as follows:

1. Hydrops foetalis, 8 cases.
2. Anencephalic infants, 6 cases.
3. One grossly abnormal infant.

TABLE V. DURATION OF INDUCED LABOURS

	Medical Induction	*Pitocin Drip*	*Surgical Induction*	*Combined Method*	*Total*
Total labour less than 6 hours	187 (43·9%)	30 (36·1%)	78 (37·3%)	7 (25·0%)	302 (40·5%)
Total labour 6 to 24 hours	219 (51·4%)	46 (55·5%)	122 (58·4%)	18 (64·3%)	405 (54·3%)
Total labour over 24 hours	15 (3·5%)	6 (7·2%)	9 (4·3%)	1 (3·6%)	31 (4·1%)
Labour successfully induced, but terminated by Caesarean section	5 (1·2%)	1 (1·2%)	0 —	2 (7·1%)	8 (1·1%)
Total	426	83	209	28	746

4. In 4 cases the foetal heart had disappeared before induction was done: (*a*) 40 weeks pregnancy with pre-eclampsia; (*b*) post-maturity with severe pre-eclampsia (twins); (*c*) 32 weeks pregnancy associated with eclampsia.

5. In 4 cases the foetal heart-sounds disappeared in labour: (*a*) 28 weeks pregnancy associated with severe pre-eclampsia; (*b*) 31 weeks pregnancy, placenta praevia, breech extraction; (*c*) 39 weeks pregnancy, pre-eclampsia with intrapartum accidental haemorrhage; (*d*) 40 weeks pregnancy, the foetal heart-sounds disappeared towards the end of a 53 hours' uterine inertia.

Thus, not one of the stillbirths appears to have been caused by the actual induction of labour.

There were 22 neonatal deaths, largely from atelectasis and prematurity, most of these being associated with severe pre-eclampsia. The causes of death in the 22 infants were as follows:

(*a*) 12 infants died of prematurity and atelectasis (and ? the hyaline membrane syndrome). The degrees of prematurity were: 2 infants 28 weeks, 3 infants 30 weeks, 1 infant 33 weeks, 4 infants 34 weeks, 2 infants 36 weeks.

(*b*) 3 infants died of the effects of the Rh antibodies, 2 after exsanguination transfusion and 1 before exsanguination transfusion could be done.

(*c*) 1 infant died of congenital heart disease.

(*d*) 1 infant died of congenital ichthyosis and atelectasis.

(*e*) 2 infants died of sclerema neonatorum.

(*f*) 1 infant died on the 8th day and at post-mortem a marked degree of myofibrosis of the heart muscle was found.

(*g*) 1 postmature infant died on the first day of atelectasis.

(*h*) 1 full-term infant died of broncho-pneumonia on the 3rd day. This infant was associated with an unsuccessful surgical induction which may or may not have initiated the broncho-pneumonia.

Thus, apart from producing a proportion of premature infants, the inductions of labour *per se* do not appear to have caused any neonatal deaths. One possible exception is (*h*) above, where an unsuccessful surgical induction was done and the membranes were ruptured for over 24 hours before delivery. However, all cases where membranes have been ruptured for more than 24 hours are given antibiotics by routine.

CONCLUSIONS

1. Attempts by mankind to procure abortion and destroy its unwanted young have produced a distillate which is used to preserve both maternal and foetal life.

2. Each induction is in fact a further experiment on initiating true labour, and in this light inductions may prove a fruitful field for research into the physiology of the pregnant uterus and uterine action.

3. Where conditions are favourable, surgical induction, preferably combined with a pitocin drip, should always be chosen in preference to medical induction.

4. From the evidence of this series, inductions do not cause a higher incidence of prolonged labour.

5. The third stage of an induced labour offers a challenge because of the high incidence of post-partum haemorrhage.

6. Induction of labour *per se*, judiciously employed, has proved safe both for the mother and the foetus.

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CEREBRAL COENURIASIS IN THE BANTU

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and

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The condition of cerebral coenuriasis is due to invasion of the brain by the larval stage (*Coenurus cerebralis*) of the tapeworm *Multiceps multiceps*. The common definitive host is the dog; wolves may also harbour the parasite. The adult worm measures 40-60 cm. in length and has a pyriform scolex containing a double row of hooklets, both large and small. Common intermediate hosts are sheep, cattle, horses and goats. The monkey *Macacus rhesus* has been described as being an intermediate host and a number of infections in man have also been reported.

Infection of the intermediate host takes place by ingestion of the ova which are present in dog faeces. In the intestine the hexacanth embryo is liberated and passes through the intestinal wall into the blood and lymph channels. Complete development of the coenurus stage usually takes place in the central nervous system. In other regions of the body the larval stage tends for some reason to be incomplete.

The first reported case in man was that of a Parisian locksmith who died in 1911 (Craig and Faust[1]). Necropsy showed the so-called bladderworm in the brain. Cluver[2] reported a case in a Bantu patient and Clapham[3] found the condition in a British sailor who died in coma. Buckley[4] described another example in a girl who presented with paraplegia and Johnstone and Jones[5] found the bladderworm in the pons, medulla and interpeduncular space of a child of 2 years. Further

cases have been reported in South Africa by Becker and Jacobson,[6,7] who discussed 4 examples. All of these patients had some connection with sheep in their occupations. A further case was discussed by Adamson[8] in Natal. We have previously reported 2 cases which were discovered at autopsy.[9]

The present case history is submitted because we feel that the condition may be considerably commoner in South Africa than is generally realized.

CASE HISTORY

M.A., a Bantu female aged 33, was admitted to this hospital with a 2 months' history of pain in both legs and progressive weakness of the legs and inability to walk. Relatives stated that there had been a change in her mental state during this period, with progressive dullness and confusion. The patient herself was apathetic and no further history was obtainable.

Examination. She was a well-built female with a normal temperature and pulse rate. Blood pressure was 130/82 mm. Hg. Cardio-vascular and respiratory systems appeared normal. Both pupils reacted sluggishly to light and on accommodation. Papilloedema was present in the right eye. There was also a right-sided facial paralysis of lower-motor-neurone type. Both calves appeared to be tender and motor power in the legs was diminished. The knee and ankle jerks were increased and both plantar responses were of extensor type. Proprioception was diminished in both legs. The gait was of a markedly staggering ataxic type and Romberg's sign was positive. The arms appeared to be normal.

Lumbar puncture produced a clear fluid under increased pressure. The protein content was 100 mg.%, with raised globulin. The sugar level was 30 mg.% and the chlorides were normal. There were 135 lymphocytes per c.mm. and 15 polymorphonuclear cells per c. mm. The Wassermann reactions of the blood and cerebrospinal fluid were negative. Culture of the cerebrospinal fluid for *Mycobacterium tuberculosis* was also negative.

X-ray examination of the skull showed an absence of the posterior clinoid processes, with slight enlargement of the pituitary fossa.

Progress. In view of the changes in the cerebrospinal fluid and occasional bouts of pyrexia a provisional diagnosis of tuberculous meningitis was made. Treatment was instituted with streptomycin and INH. However, there was no improvement in the clinical state; the patient remained dull and lethargic and repeated examination of the cerebrospinal fluid revealed little change. After 2 months in hospital the patient suddenly developed a temperature of 103·0°F and died the same day.

Autopsy

The body was that of a well-developed Bantu female. On the skull being opened the meninges covering the cerebral hemispheres appeared normal. Situated at the base of the brain in the region of the pons and interpeduncular space was a collection of about 12 cystic masses. Similar cystic areas were present in the posterior fossa in relation to the base of the cerebellum. The cysts had obstructed the foramina of the fourth ventricle and internal hydrocephalus was present, with dilation of the whole of the ventricular system. Some of the cysts were in close relation to the right 7th nerve and were presumably the cause of the facial paralysis on that side.

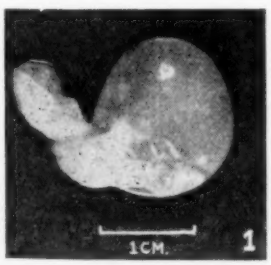

Fig. 1. *Coenurus cerebralis.*

The cysts varied in size from that of a pea to others about ½ inch in diameter (Fig. 1). Some of them were sterile but others contained scolices and hooklets typical of *Multiceps multiceps*.

Examination of the rest of the body revealed no abnormalities.

DISCUSSION

Cerebral coenuriasis is usually considered to be a rare condition, less than 15 cases having been reported in the English-language literature. However, it would appear that infestation with *Multiceps multiceps* may be commoner than is thought, particularly in countries such as this where there is close association of man with dogs and sheep.

The incidence of infection in our post-mortem material has been 3 cases in 1,200 autopsies. However, if we exclude abscess and tuberculoma of the brain, we have only found 4 other space-occupying lesions in this series, namely, two meningiomata, one astrocytoma and one cranio-pharyngioma. In view of these findings we feel that cerebral coenuriasis should be considered seriously in the differential diagnosis of space-occupying lesions of the skull. This is especially so where the clinical features suggest localization of the lesion in the posterior fossa. Moreover, the condition is amenable to surgery.[6,7]

In most of the reported cases there have been changes in the cerebrospinal fluid, with raised pressure, increased protein and lymphocytosis. These changes are due to the peculiar predilection of the parasite for the ventricular system. Papilloedema is also described as being a common feature and was present in all the cases reported by Becker and Jacobson.[6,7] Papilloedema was present in this case but not in either of our two previous ones.

Apart from opening the skull there appears to be no method of making the diagnosis. The typical clusters of grape-like cystic areas are quite characteristic and are more often found in the posterior fossa than elsewhere. Becker and Jacobson[6] have shown that the hydatid complement-fixation test may be positive, owing to the possession of a common antigen by the two parasites. Similarly it would appear that skin tests of the Casoni type would also give non-specific reactions. However, we are at present attempting to investigate this point in more detail.

SUMMARY

A case of cerebral coenuriasis is presented. This is the larval stage of *Multiceps multiceps* and infestation in man occurs on occasion. The clinical features are those associated with a space-occupying lesion of the skull.

We are indebted to Dr. R. E. Stevenson, Director, Provincial Medical and Health Services, Natal, for permission to publish this case note and to Dr. J. D. Woods for access to the case history.

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OSSIFYING FIBROSARKOMA OF THE NOSE: CASE REPORT

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The usual malignant growths of the nose are carcinomas. A fibrosarcoma is rarer. For this reason the publication of the report on a case of ossifying fibrosarcoma of the nose in a man aged 34 years, appears justifiable.

CASE HISTORY

2 *August* 1940. First seen after a recent attack of rhinitis. Marked septal deviation to the left. Slight mucus on floor of left nasal passage and post-nasal space on the left side. Antra translucent—left antrum gave clear lavage.

27 *November* 1941. No discharge in nose or post-nasal space. Airways: right good, left marked septal deviation.

11 *June* 1954. Seen again after 13 years. He was now 34 years of age. He complained of right frontal headache off and on for 3 years, but for 3 months without a break. Marked nasal stuffiness had persisted for some weeks. He had not noticed any discharge, blood-stained or otherwise.

On examination: Marked septal deviation to the left, which allowed only a limited view of the anterior portion of the left nasal passage. No secretion seen in either passage. There appeared to be some fulness of the left anterior ethmoidal area. No other abnormality seen.

Post-nasal space: What appeared to be an antrochoanal polypus—except that it was more opaque than usual—was seen on the left side. No discharge seen.

14 *June*. *X-ray Report:* 'Both maxillary antra are well developed and about equal in size. The radiotransparency of these cells is within normal limits. Frontal sinuses are moderately well developed. The left is slightly smaller than the right but both cells are clear. There is considerable clouding of the ethmoidal system of cells on the left side, and the sphenoid has a loss of normal transparency. The ethmoidal system of cells on the right side and the right sphenoid appear to be clear. The examination has shown there to be infection of the left ethmoid cells and the left sphenoid'.

On this report I advised septal resection to gain access to the left ethmoid and sphenoid. The patient's intention was to undergo the operation after 6 weeks because of an examination which he wished to take. Ten days later he returned saying that the headache was unbearable and he could not concentrate on his work.

1 *July*. *Operation*. Under general anaesthesia the septal resection was done. The left ethmoido-sphenoidal area was now visible. It was at once obvious on inspection and paipation with the nasal forceps that, in addition to some muco-pus in the sphenoidal area, there was a new growth. The growth was greyish white in colour. It had replaced the posterior ethmoidal cells, was attached to the cribriform plate up to the mid-line and laterally to the lamina papyracea of the ethmoid. From here it extended laterally downwards and joined the polypoid structure originally seen postnasally below the posterior end of the middle turbinate. This structure was hard and avascular, like the rest of the growth. Complete eradication of the growth was obviously impossible. Davis[1] in his article on nasal carcinoma made the statement 'It is only when a cancer becomes a tumour that a series of mechanical results appear'. This tumour obviously had a bearing on the headache and a palliative removal was done. With a curette, the gritty growth came away in chunks with negligible bleeding. The wall of the sphenoid was a mass of granulation tissue and gritty material. The cavity of the sphenoid contained granulation tissue and muco-pus. The cribriform plate in its posterior half-inch was absent, and replaced by the remains of the gritty growth. The left naso-orbital partition in that area was mobile over a small area, which was covered by growth. Scooping out of the polypus-like structure left a cavity extending into the sphenomaxillary fossa. The tumour appeared to arise round the spheno-ethmoidal recess, and was confined to the left side of the nose. The total amount removed equalled the volume of a small hen's egg. The left side of the nose was packed with bipp gauze and a glove finger was inserted into the right passage.

2 *July*. Twenty-four hours after operation the right-sided headache had disappeared, and only a bruised feeling in the left frontal area remained.

19 *July*. *Report on Section*. 'Ossifying fibroma with evidence of sarcomatous change of the deeper aspect. Considered radio-resistant'. The consensus of opinion was that X-ray therapy was not justified, and it was not given. Slight proptosis was noticed at this stage.

Ophthalmological Report. 'Left eye proptosed. Medullated nerve-fibres at optic disc (physiological) causing enlarged blind spot. No scotomata. No diplopia. No nystagmus. Fields charted. No contraction. Visual acuity: Right 6/5, left 6/6 (with correction 6/5).

26 *July*. The floor of the sphenoid seen *via* the postnasal space showed a uniform fulness and congestion. There was renewed activity of the intranasal growth.

17 *August*. The intranasal growth was now crossing the midline in the area of the cribriform plate. Some right-sided headache reappearing.

30 *August*. Proptrosis much more marked. Diplopia now definite. Growth nearly fills the left side of the nose. Headache in right frontal area is bad again. This is the patient's chief complaint, from which he has been free since the operation on 1 July. Because of the relief from headache after the first operation, it was decided to remove as much of the growth as possible once more.

31 *August*. *Operation*. General anaesthesia. Dr. R. Lane Forsyth ligatured the external carotid, and then assisted me. I made the incision from under the frontal ridge, down the side of the nose and split the upper lip in the mid-line. After reflecting the soft parts, I removed the bony side-wall of the left nasal passage, including the ascending process of the maxilla, the nasal bone and the floor of the orbit. The growth had invaded the left antrum and orbit. The main body of the growth was again attached to the posterior ethmoidal area, and now crossed the mid-line to the right. It extended down laterally into the pterygoid plate

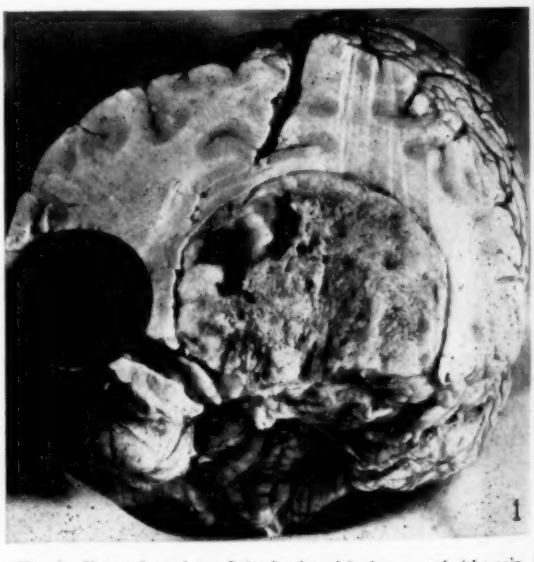

Fig. 1. Frontal section of the brain with the growth (the coin is a penny).

and sphenomaxillary fossa. Most of the growth was levered out in one piece and exceeded the size of a large hen's egg. Bleeding was negligible. The exposed dura was replaced by growth which extended across the mid-line to the right. The cavity was packed with bipp gauze and the soft parts stitched back into position. The packing was removed after 7 days. Diathermy was not used because obviously there was already an intracranial extension of the growth. The patient had comparatively little discomfort after the operation. The headache and diplopia disappeared and the headache never really bothered him again. The proptosis was hardly noticeable.

5 *October*. Marked deterioration in his general and mental condition. He became morose, hardly spoke, and presently became aphasic. He understood, however, and nodded his replies. Some vomiting and temperature suggested meningeal involvement, but this disappeared with penicillin and streptomycin treatment.

10 *October*. Proptosis noticeable again.

10 *November*. Loss of bladder control.

14 *November*. Hemiplegia. Right arm and leg paralysed. Right abdominal reflex gone. Unconscious and difficulty in swallowing.

21 *November*. Conscious and slight use of right arm, but aphasic. Proptosis very marked.

2 *December*, 1954. The patient died after having been unconscious for some days. At no time were any secondary glands detected.

AUTOPSY REPORT (DR. R. SCHAPERA)

On 2 December 1954 the patient came to autopsy. The body was that of an adult European male subject of about 35 years of age. There was generalized cachexia.

Fig. 2. Section through nasal portion of the tumour, showing the radiating type of growth.

The left eye was considerably proptosed, but the facial appearance was otherwise unaltered.

On dissection the only abnormalities observed were (1) bilateral catarrhal broncho-pneumonia, which was the ultimate cause of death, and (2) a tumour of the nasal and anterior cranial region, with no evidence of vascular or lymphatic metastases.

This tumour showed a radiating pattern which commenced in the basisphenoid region on the left side, from whence it radiated into the nasal cavity and also into the frontal lobe of the same side. The growth was generally of a hard rubbery texture, with irregularly scattered areas of calcification and with occasional smooth cystic spaces. The colour was grey, with areas of haemorrhagic discolouration.

As a rule the tumour was well defined (Figs. 1 and 2). It appeared to have grown by submucous extension in all directions in the posterior nasal cavity and by erosion (1) through the anterior wall of the sphenoid sinus, (2) through the lateral wall of the ethmoid sinuses and thence into the left orbital cavity, and (3) through the cribriform plate into the cranial cavity. Within the cranial cavity its limits were well defined by a stalk-like growth from between the optic nerves through the dura and by subsequent invagination of the pia-arachnoid and the left frontal lobe.

Soft tissues were not infiltrated, the nasal mucosa, optic nerve and pia-arachnoid being intact. A point of some interest is the fact that after eroding the cribriform plate, the growth raised the overlying dura without traversing it—this pressure effect gave rise to pronounced headaches. At this stage most of the tumour was removed and portion of the adherent dura was apparently torn away. Thereafter further growth bulged through this dural gap. Despite this subsequent enlargement of the growth in the cranial cavity no further headaches were experienced until shortly before death.

Microscopic examination of sections from this tumour shows the presence of cellular fibromatous tissue (Fig. 3) with irregular areas of calcification (Fig. 4). In many parts of these sections atypical cell-hyperplasia was present (Fig. 5), which places the growth in the category of an ossifying fibrosarcoma.

Ian Aird[2] describes fibrosarcoma of the basi-occiput region which is in certain respects like the growth reported here. He considers this fibrosarcoma to be of periosteal origin and only locally invasive although not highly malignant—probably in the sense that it does not metastasize. The same author also describes the ossifying fibroma in this region, indicating that recurrences are common but malignant transformation does not occur. In the ossifying fibroma calcification occurs as well as ossification, the calcification presenting as peculiar concretions and rings.

Willis[3] describes a fibrosarcoma with granular calcification occurring in the nasal cavity of dogs; this growth was also not metastizing.

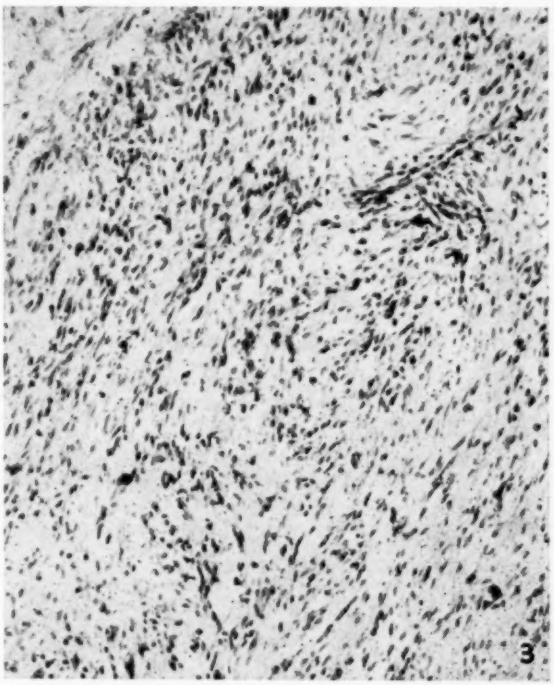

Fig. 3. The section (×200) was taken from the anterior nasal portion of the tumour, to show the general structure of the growth.

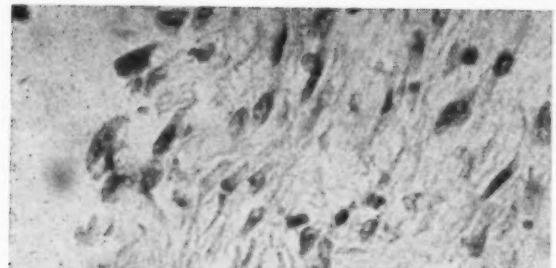

Fig. 4. Section of the tumour (×800) to show areas of calcium in a region where the mitotic activity is minimal. Other areas showed well-defined mitotic activity associated with similar calcium islets.

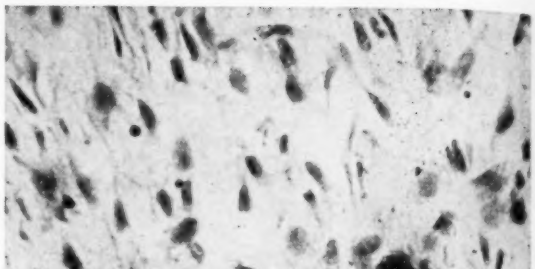

Fig. 5. Section of the tumour (×800) near site of origin to demonstrate the well-defined mitotic activity which is present in certain parts of the growth.

SUMMARY

A case of ossifying fibrosarcoma of the nose is described. The left-sided growth gave a right-sided frontal headache. The invaginating growth bulged across the mid-line of the brain and was covered by the meninges as described in the post-mortem report. Complete relief from headache after the first operation made me decide to operate again as a palliative measure. In this the operation succeeded again. Biopsy report showed the growth to be radio-resistant. Diathermy was not used because the dura was already invaded. The growth appeared to centre round the spheno-ethmoidal recess, from where it spread. When seen originally no nasal discharge was seen, bloodstained or otherwise. Death ensued about 6 months after the diagnosis was made.

I am indebted to Dr. R. Schapera, Government pathologist, Cape Town, for the post-mortem and biopsy reports and to the University of Cape Town—Dr. Goetz's Department—for the microphotographs.

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MEETING OF THE SOUTH AFRICAN MEDICAL AND DENTAL COUNCIL

The 63rd meeting of the South African Medical and Dental Council was held in Johannesburg on 17-19 September 1956, extending over 5 half-day sessions. The President, Prof. S. F. Oosthuizen was in the chair, and 30 members attended, together with the Registrar (Mr. W. Impey) and staff. One member was absent.

Reference was made to the recent death of Dr. F. P. Bester, a former member of the Council, all members standing.

President's Opening Remarks

The President congratulated Prof. G. A. Elliot on his election as first President of the College of Physicians and Surgeons of South Africa and Prof. James Black and Dr. R. Lance Impey, who had been appointed as Chairman and Vice-chairman of the first South African Regional Council of the Royal College of Obstetricians and Gynaecologists.

Professor Oosthuizen also congratulated the Hon. J. T. F. Naudé on his appointment as Minister of Finance and spoke of the distinguished manner in which he had filled the position of Minister of Health and of the cordial way in which he had at all times cooperated with the Council. Professor Oosthuizen went on to welcome the new Minister of Health, the Hon. J. H. Viljoen.

The President then proceeded to consider the increasing number of registered practitioners in South Africa. At 30 June 1956 the register comprised 7,348 medical practitioners, 318 interns and 1,178 dentists, whereas the figures in 1932 were 2,528 medical practitioners and 698 dentists. While this increase in two decades

was to be welcomed from the standpoint of the public health it was problematical whether economically the country could absorb a similar increase in the future. Dealing with the numbers of students the President observed that, whereas in 1932 there were 564 medical students on the register, in 1948 the number was 2,270. The number on the register had since declined until in 1955 it was only 1,422, including students at the University of Natal. The number at Natal would increase in the future and from 1957 the students at the University of Stellenbosch would come into account. The question of the distribution of medical practitioners was engaging the attention of the Council's executive committee.

In speaking of the Council's good relations with other bodies the President referred particularly to the Department of Health and the Medical and Dental Associations of South Africa, from whom the Council had continued to receive much valued assistance.

After mentioning various important matters that would be considered at this meeting, Professor Oosthuizen stated that no major amendments to the requirements for the registration of specialities were contemplated at present, and that if such amendments became necessary in future the Council would give ample notice and would 'permit men in training to proceed under the present rules for a specified period, which period will be of such a duration as to allow them to complete their training under the provisions of the present rules.'

Dealing with medical ethics the President said he had discussed medical politics with authorities in different countries and in his opinion in South Africa the ethical standard of the medical and dental professions was as high as anywhere in the world, and any suggestions that unprofessional conduct was at all widespread would be untrue. He added that the Council was a statutory body created by Parliament with the prime duty of looking after the interests of the public.

Registration of Specialities

The final report of the *ad hoc* committee on this subject was not yet available for consideration by the Council.

Special Subjects

Reports of the Council proceedings in respect of the following subjects will be published in the next issue of the *Journal:*

Dispensing by doctors.

The registration of practitioners in possession of foreign qualifications not prescribed under section 22 of the Act.

The Medical, Dental and Pharmacy Amendment Bill, 1956, in so far as the foregoing two subjects are concerned.

The administration of anaesthetics by nurses and midwives, the giving of injections by nurses and midwives, and the carrying of morphia and pethidine by midwives for emergency use.

The training and registration of optometrists and the conditions under which they should carry on their calling.

Financial Statement

In presenting the accounts for the 6 months ended 30 June 1956 the Treasurer (Dr. I. R. Vermooten) reported that the revenue for that period was £23,798 and the expenditure £15,094. A portion of the surplus was to be invested.

REGISTRATIONS

The Registrar reported that the registrations effected during the first half of 1956 were as follows: Medical practitioners 206 (including 2 limited to missionary medical practice), medical practitioners restored to register 21, interns 54, dentists 8, dentists restored 4, specialists (medical) 61, (dental) 2, medical students 283, medical students restored 4, dental students 63, dental students restored 1, and medical auxiliaries 32 (physiotherapists 15, medical technologists 10, occupational therapists 3, chiropodists 1, orthopaedic mechanicians and surgical appliance makers 1, radiographers 1, speech therapists 1.)

Two applications for the extension of the registration of missionary medical practitioners for a further period of 5 years were granted and one was refused.

On the application of the Universities of Cape Town, Natal and Pretoria and of the Medical Association of South Africa, respectively, it had been recommended to the Minister of Health that 4 medical practitioners visiting the Union should be temporarily exempted from the registration requirements of the Act.

The applications of 21 medical practitioners and 5 dentists for the erasure of their names from the register were granted.

The applications of 15 medical practitioners and 1 dentist over the age of 70 years for exemption from the payment of annual fees was granted. The Council resolved that in such applications the written statement by the applicant that he is over the age of 70 be accepted.

The Council decided that the degree of Bachelor of Dental Surgery (B.D.S.) of the University of Edinburgh should be accepted as a dental qualification and added to the regulations accordingly.

Registration of Specialities

Since the last meeting of the Council (March 1956) the following applications for the registration of specialities had been approved by the Specialists Committee and were now granted by the Council: Surgery 7, medicine 6, obstetrics and gynaecology 4, diagnostic radiology 4, anaesthetics 3, orthopaedics 3, pathology 3, otorhinolaryngology 2, ophthalmology 2, urology 2, paediatrics 1, neuro-surgery 1 (total 38).

The following applications were granted conditionally: Surgery 2, obstetrics and gynaecology 1, orthopaedics 1, pathology 1, otorhinolaryngology 1, ophthalmology 2, urology 1, paediatrics 2, neuro-surgery 1, psychiatry 1 (total 13).

Sixteen applications were refused.

Thirty-three enquiries from applicants had been dealt with and were reported to the Council.

Two applications were granted for restoration of specialities to the register after deletion at applicants' own request.

Dental specialities: 2 applications (orthodontia) were granted and 1 refused; and 1 enquiry had been dealt with.

The Council resolved that as from 1 January 1958 the recognition of the speciality Radiology be discontinued, and persons who desire to practice both branches of radiology shall be required to register both the specialities Diagnostic Radiology and Therapeutic Radiology. This resolution is not retrospective and registrations of Radiology made before 1958 will continue to be valid.

A revised list of qualifications acceptable as higher qualifications under the Council's rules for the registration of specialities was passed. Copies of the list may be obtained from the Council's office.

As from 1 January 1958 the Diploma in Psychological Medicine will no longer be accepted as a higher qualification for the speciality Neurology.

It was resolved to accept the Diploma in Psychological Medicine of the University of McGill as a higher qualification for the speciality Psychiatry.

It was resolved to accept full-time district surgeoncies as general practice under the Council's rules for the registration of specialities. It was also decided to continue to accept for this purpose work performed at the Cape Town Dispensary.

Mention was made of the fact that though the English and Irish Diploma of Anaesthetics and that of Child Health are no longer accepted under the Council's rules for the registration of specialists, these diplomas of the University of the Witwatersrand are still acceptable for that purpose.

INTERNSHIPS

It was reported that the Government had finally declined to renew the non-statutory grant previously paid to the Council for the purpose of maintaining an inspectorate of internships. During discussion on the subject the President stated that the declared policy of the Council was to arrange for the inspection of internships. The question of the maintenance of an inspectorate was referred to the Executive Committee to investigate and report.

Shortage of Interns. The Council considered a letter from the Medical Association of South Africa on the subject of the shortage of interns, as a result of which a number of hospitals were unable to fill vacancies for interns. The Association had forwarded a resolution from the Hospital Administrators' Group asking the Council to institute an enquiry into the subject. It was decided to reply at length to the Association pointing out that the Council was primarily interested in the training which the graduates should receive, and not in providing personnel for the hospitals. The Council had laid down criteria for the approval of internships, and had quite recently removed from the list of approved internships a considerable number of hospitals and posts which did not comply with these criteria. The Council saw no reason to change its criteria. Finally it was to be pointed out that in a few years' time graduates from the Universities of Natal and Stellenbosch would be seeking internships.

A communication was considered from the Witwatersrand Graduates' Association stating that the internship period was not fulfilling the functions for which it was intended, and that the position had deteriorated since the post of inspector of internships fell vacant. The communication suggested certain reasons for the alleged failure. It was decided to inform the Graduates' Association that these matters were receiving the Council's constant attention.

A letter was also under consideration from the Professor of Surgery, University of Natal, on the subject of the standard of intern and house-surgeon training at King Edward VIII Hospital, Durban. The Council concluded that the issues were primarily domestic to the hospital, though the Council's approval of these internships was necessary for their continued recognition, and decided to communicate on the subject with Professor Kark and the Director of Provincial Medical and Health Services, Natal.

Unemployment Insurance. The Council was asked to comment on an application from the Provincial Secretary, Natal, for the exclusion of interns from the provisions of the Unemployment Act. After debate it was concluded that this matter did not fall within the purview of the Council.

Unregistered Interns. The Executive Committee brought before the Council the situation that not infrequently arose because graduates neglected to apply for registration before commencing their internships. This was of importance not only from the point of view of the requirements for their subsequent registration as medical practitioners, but also because their situation was closely analagous to that of unregistered practitioners. While the gravity of this was stressed it was concluded that interns should be in no doubt about their obligations.

Various applications concerning the approval of internships were considered and dealt with.

DISCIPLINARY ACTION

The Executive Committee reported 38 complaints against medical practitioners and 2 against dentists which had been dealt with by the Committee without the holding of an enquiry. Their action was approved by the Council in every case, but one case was referred back to the Committee for further enquiry in the light of subsequent information.

Alleged Overcharging. Since the last Council meeting (March 1956) assessors were appointed under section 80*bis* in 3 cases concerning doctors' accounts, and in 3 other cases the reports of assessors were received. The Executive Committee also reported queries concerning doctors' accounts in 18 cases and those of dentists in 2 cases, in each of which the persons who submitted the queries were advised of the procedure under section 80*bis*. Nothing further had been heard in any of these cases.

Disciplinary Enquiries

The following disciplinary enquiries were reported to the Council:

Dr. M.E.G. was found guilty of disgraceful conduct in that he was convicted in the Magistrate's Court of 8 counts of procuring abortion and sentenced on each count to 6 months' imprisonment with compulsory labour, which convictions and sentences were subsequently confirmed by the Provincial Division of the Supreme Court. The Council erased his name from the register of medical practitioners.

The late Dr. C.P.A. was found guilty of disgraceful conduct in that he was convicted in the Magistrate's Court on 3 counts of aiding and abetting the abovementioned Dr. M.E.G. and another in procuring abortion and sentenced on each count to 6 months' imprisonment with compulsory labour, which convictions and sentences were subsequently confirmed by the Provincial Division of the Supreme Court. The recommendation that his name be erased from the register fell away owing to his death, which took place after the enquiry.

Dr. A.A.V. was found guilty of improper conduct in that he was found guilty in the Magistrate's Court of driving a motor vehicle while under the influence of liquor, sentence being suspended. He was reprimanded and cautioned.

Dr. C.M.K. was found guilty of conduct which, when regard is had to his profession, is improper in that he performed certain operations without the assistance or presence of another practitioner, and was cautioned.

BLOOD TRANSFUSION SERVICES REGULATIONS

The Executive Committee reported to the Council the action it had taken in connection with the draft of regulations for the control of blood transfusion services which it is proposed to promulgate under section 83*bis* of the Medical, Dental and Pharmacy Act. The Secretary for Health had submitted the draft regulations on 25 April 1956 for the Council's comments. These draft regulations, which are of a detailed character, consist of 57 sections and fill 34 pages of close typescript.

The Executive Committee appointed an *ad hoc* Committee consisting of Dr. L. I. B. Braun, Prof. E. H. Cluver, Prof. I. Gordon, Dr. J. N. W. Loubser (chairman) and Dr. M. Shapiro to consider the draft regulations. This committee met on 1 June 1956. Besides the draft regulations the *ad hoc* Committee had before it a memorandum on the proposed regulations by Dr. Shapiro, a memorandum on the same subject by the South African Institute for Medical Research, and the amendments to the draft regulations proposed by a Conference which Blood Transfusion Services held at Durban on 23 May 1956. The documents were submitted to the Council with the report of the *ad hoc* Committee, in which the Committee recommended a series of amendments to the draft regulations, some of which had been proposed by the Durban Conference.

One of the *ad hoc* Committee's recommendations was that the regulations should provide for 'the establishment of a statutory expert advisory committee, appointed by the Minister of Health, to advise the licensing authority on all technical matters relating to the procurement of blood, approved laboratories, blood transfusion laboratories, etc.'; and that wherever the words "in the manner approved by the licensing authority" appear in these regulations, they be deleted, and that the following words be substituted therefore: "in the manner approved by the statutory expert advisory committee".'

The *ad hoc* Committee also recommended that a portion of the draft regulations (viz. clauses 5-17 of the second schedule) 'be referred for consideration to a statutory expert advisory committee', and recorded that 'it was particularly because of the complexity of the second schedule that this Committee was anxious that such a statutory expert advisory committee should be set up.'

The Executive Committee at its meeting in July 1956 adopted the report of the *ad hoc* Committee, subject to one amendment substituting for the words 'statutory expert advisory committee', wherever they appear, the words 'expert advisory committee'. The Executive Committee also resolved to forward a copy of the report to the Secretary for Health together with the other documents referred to above.

In the Council's debate on the Executive Committee's report Dr. M. Shapiro said that the regulations codify accepted intentional practice—but they also give it legal sanction, the advisability of which he considered to be very doubtful. For example, should the accepted practice in surgery be prescribed by Government regulations? But, if they were to have regulations, he considered these were as good as they could get. He did not, however, agree with the proposal to drop the word 'statutory' from the name of the proposed expert advisory committee.

The Secretary for Health (Dr. du P. le Roux) said that, in accordance with the custom of his Department, the Minister of Health had already appointed a committee of experts, of which only one member belonged to the Department, to examine the draft regulations.

European and non-European Blood

The draft regulations contained a number of clauses concerned with the segregation of European and non-European donors and the blood taken from them ,and the distinctive labelling of European and non-European blood and blood products, and some of the proposed amendments refer to these clauses.

The clause concerning the labelling of containers of whole human blood required that the label should contain a statement whether the blood was of European or non-European origin, and that if the former there should be a ¼-inch-wide white border to the label, and if the latter a similar black border. The *ad hoc* committee's proposed amendment is to replace these provisions by one clause, as follows: 'A plain white circular adhesive label shall be attached to the container of blood of European origin'.

In the Council debate Dr. M. Shapiro and Professor Gordon emphasized that there was no scientific basis for this discrimination. Dr. Shapiro said that all the blood transfusion bodies were careful to segregate European and non-European bloods, and the matter should be left in their hands and not enforced by regulation; the clause would be to the eternal discredit of the Council and the

medical profession. He asked, 'Why prescribe by law what is being well done voluntarily?' It might well deter non-European donors, who are moved by the same moral and emotional motives as other donors.

Professor Gordon said it was manifest that the Government was insisting on the labelling requirement, but that, although the white spot proposal was minimal and less objectionable than the earlier proposals, the doctors should record their disapproval.

A motion to delete the proposals concerning racial discrimination which the Executive Committee had approved was defeated, and the report of the Executive Committee was agreed to by the Council.

MEDICAL AUXILIARIES

The Council resolved to change the name of the Auxiliaries, Committee to 'Committee on Supplementary Health Services.'

Medical Laboratory Technologists

On 16 March 1955 the Hon. General Secretary of the Society of Medical Laboratory Technologists wrote to the Council proposing the formation of a National Board of Medical Technology consisting of 3 representatives of his Society and the professors of pathology at the Cape Town, Pretoria and Natal Universities, with a chairman appointed by the Medical and Dental Council. The functions proposed for this Board included the organization of curricula and syllabuses of training, the appointment of external examiners at examination to be conducted at local centres, and the issue of diplomas to successful candidates. The internal examiners were to be appointed by Regional Committees which would be responsible for the general conduct of courses in Medical Technology.

On 4 October 1955 the Hon. General Secretary wrote again proposing the formation of an Interim Controlling Committee as envisaged in the Medical Auxiliaries Bill, which would consist of not more than 6 persons, of whom 2-4 would be medical technologists and 1-2 would be members of the Medical and Dental Council.

Arising out of the discussions on these letters which took place in the Executive Committee, the Council resolved: 'That the views of the Medical Association of South Africa be obtained on the question whether the Council should keep registers, voluntary or statutory, for the various categories of medical auxiliary personnel, and that the Association be also invited to express an opinion on the principle of the registration of auxiliary personnel.'

Proposed Separate Register for Dietetic Assistants

The Council gave consideration to the proposals contained in a letter dated 15 October 1955 from the South African Dietetic and Home Economics Association, in the light of comments made by the Secretary for Nutrition, the 4 Provincial Administrations and the Universities of Pretoria and Stellenbosch. The Council decided not to institute a separate register for 'dietetic assistants.'

Qualified Professional Chemists

The South African Chemical Institute, being concerned over the possibility that fully qualified professional chemists might come under the discipline of the Medical and Dental Council in terms of the Supplementary Health Services Bill, presented a memorandum to the Council on the position of chemists and biochemists (as distinct from technicians) employed in medical and clinical pathological laboratories to deal with chemical problems in the field of medicine. If such persons should eventually be registered the Institute desired to be accorded representation, on the relevant committee set up under section 8 of the Bill.

The Executive Committee discussed the matter with 3 representatives of the Institute, and the Chairman of the Committee stated that it was not the intention of the Council that qualified professional chemists working as stated above should be registered, by the Council in the event of the Bill becoming law, although chemists who qualified as medical technologists and were employed as such would have to be registered in that event. The Institute were assured that they would be consulted whenever the Council had to deal with matters affecting professional chemists.

The proceedings were reported to the Council and noted.

School for non-European Radiographers. In connection with the establishment at Baragwanath Hospital, Johannesburg, of a school for non-European diagnostic radiographers, the Council, in response to an application from the Transvaal Provincial Administration, approved the school and the proposed curriculum.

Masseurs. New rules were approved for submission to the Minister of Health regarding the conditions under which masseurs may carry on their calling, in place of the rules promulgated under Government Notice 1406 of 1931.

Physiotherapists. The Council decided to amend the rules regarding the registration of physiotherapists by the deletion of the rule requiring an applicant to produce proof that he has attained the age of 21 years.

The Council agreed that registered physiotherapists be permitted to give lectures on physiotherapeutic subjects provided the sanction in writing has been obtained of the Branch of the South African Society of Physiotherapists of the area in which the lecture is to be given.

Occupational Therapists. The Council decided that there would be no objection to the showing to the public by the South African Association of Occupational Therapists of non-technical films on occupational therapy.

Optometrists. The proceedings in the Council on the training and registration of optometrists and the conditions under which they carry on their calling will be reported in an article in the next issue of the *Journal*.

Registration. Since the last meeting of the Council (March 1956) applications for registration have been dealt with as follows: Masseurs or physiotherapists, 2 granted and 4 refused; medical technologists, 11 granted (1 provisionally) and 1 refused; psychologists, 4 applications all deferred; orthopaedic mechanician and surgical appliance maker, 1 granted; optometrist, 1 refused.

MISCELLANEOUS

Proposed Increase in Elected Medical Practitioners

The Council was informed that the Minister of Health had declined to accede to the Council's request that the number of elected medical practitioners in the Council should be increased. After debate, in which it was emphasized that as a result of the increase in the number of University representatives there was a relative reduction in the representation of the medical profession on the Council, it was decided to take the matter up again with the new Minister of Health.

Second Conference on the Provision of Medical and Dental Services in Relation to Medical Ethics. The report of this meeting, which was held on 24 March 1956, was submitted to the Council, together with that of the first Conference, which was held in March 1955. Both meetings had been convened by the Council and were attended by representatives of the Council and of the 5 Universities with medical or dental faculties, the South African Institute for Medical Research, the Union Department of Health, the Provincial medical directors of hospitals, and the Medical and Dental Associations of South Africa. The report of the second Conference had been sent to all the bodies represented and when their comments had been received the Council would give further consideration to the questions at issue. Some of these comments, however, were still awaited.

Disclosure of Cancer Cases. On a letter from the Demographic Research Unit of the Cape (established by the National Cancer Association) a debate took place on the question whether it would be ethical for medical practioners to furnish information concerning cancer cases under their treatment to the demographic research units of the National Cancer Association. The Council passed the following resolution: That, provided the information is given under confidential cover to a medically qualified and registered head of a demographic cancer survey unit established by the National Cancer Association of South Africa, there is no contravention of the ethical rule when a medical practitioner notifies such a head of a unit of a case of malignant disease.

Racial Discrimination in Salaries Paid to Doctors. A letter was considered asking the Council to lay down a ruling on this question concerning doctors employed at provincial hospitals in the Transvaal. It was stated that African doctors are paid 3/5ths of the salary for European doctors, and Indian doctors 4/5ths, although they do the same work and carry the same responsibility. The writer of the letter suggested that this constituted a contravention of rule 19(*e*) or rule 26 of the Council's ethical rules, and that apart from any specific rule the introduction of race as a criterion of salaries was foreign to medical ethics. A letter on the same subject from 3 Indian interns in a Transvaal provincial hospital was also before the Council. The Council decided to refer back

the question to the Executive Committee to determine whether this practice contravenes any ethical rule of the Council.

Childrens' Act. In reply to a letter from the Secretary for Health the Council resolved: that the Council favours an amendment of the Children's Act to protect medical and dental practitioners who perform emergency operations on minors where the consent of the parent or guardian cannot be obtained because they cannot be contacted but where the medical or dental practitioner is of opinion that such an operation is necessary; in cases which are not of an emergency nature, the provisions of the present Act seem to meet the situation, i.e. the Minister of Social Welfare may consent thereto in lieu of the child's parents or guardian. The Council, however, suggests that wherever possible a second opinion should be obtained by the medical practitioner or dentist concerned.

Hypnotism—Public Demonstrations. A letter from the Secretary of Health was considered in which he asked for the Council's views on a suggestion that legislation should be introduced to control the practice of hypnotism by laymen and public demonstrations of hypnotism. Reference was made to the British Hypnotism Act, 1952, which forbids public demonstrations of hypnotism on persons under 21 years absolutely and on older persons unless the performance has been authorized by the authority responsible for the licensing of places of public entertainment. The Council's attention was also invited to a report on the medical use of hypnotism by a sub-committee of the Psychological Medicine Group Committee of the British Medical Association, published in the supplement of the *Brit. Med. J.* of 23 April 1955. The Council resolved to welcome the introduction of legislation in regard to hypnotism and expressed the opinion that the British Act appeared to meet the position.

Distribution of Practitioners. A memorandum by the President (Prof. S. F. Oosthuizen) was submitted to the Council, in which the author expressed the view that this type of survey falls more appropriately in the sphere of the Medical and Dental Associations than in that of the Council, who should, however, assist wherever possible. The Council decided accordingly and requested the President to put his memorandum into a form suitable for publication.

Municipal Medical Officers and Workmen's Compensation Act. Services to municipal workmen injured on duty are rendered by full-time medical officers of the Germiston municipality. Full-time officers are not permitted to accept any remuneration other than the salaries and allowances paid to them by the City Council. It is proposed that the Workmen's Compensation fees for the above services should be paid to the City Council, who would then pay an equivalent amount to the medical officers as an allowance. The Council were asked if they approved of this arrangement, and decided that they could see nothing wrong with it from an ethical point of view.

Discount on Dental Fees. The Dental Association of South Africa is proposing to grant recognition to organizations operating satisfactory medical aid schemes, and to an arrangement under which members of approved organizations shall be entitled to 5% discount on dental fees paid within 30 days of rendering accounts (and possibly a higher discount on accounts over 10 guineas). The Dental Association asked the Council for its approval of the ethical aspect of the arrangement. The Council resolved to inform the Dental Association that it was unlikely to query such agreements with medical and dental aid societies on a national basis approved by its Federal Council; but any complaint against an individual dentist would have to be dealt with on its merits under the Council's rules.

'Certificates of Bravery'. The manufacturers of a brand of toothbrushes supply 'certificates of bravery' for 'being a good patient in the dental chair' which bear the name of the patient, the time and date of the next dental appointment, and the name of this brand of toothbrushes, and are to be signed by the dentist and given to the patient. A dentist who received a circular from the manufacturers offering a supply of these certificates enquired of the Council whether the proposal contravened the ethical rules. The council decided that such action would be irregular, and resolved to inform the Dental Association of South Africa that it was contrary to the traditions of the profession.

Nutrition Pamphlets with Dentists' Monthly Accounts. The Secretary for Nutrition enquired whether the Council had any objection to their asking dentists to keep for patients in their consulting rooms a supply of official pamphlets designed to combat tooth decay, and to enclose a copy with their monthly accounts. The Executive Committee had replied that there was no objection, but this meeting of the Council resolved to write again to the effect that the Council cannot agree to dentists' being asked to enclose pamphlets with their accounts.

Complaint against Chemist and Druggist. A doctor complained that a particular chemist and druggist was repeatedly dispensing his prescriptions incorrectly. It was decided to advise him to lodge a specific complaint against the chemist and druggist with the South African Pharmacy Board.

Standards for Cotton Wool. The Secretary for Health enquired whether the Council concurred in a proposal that two legal standards for cotton wool should be prescribed, following the specifications of the South African Bureau of Standards, viz. (*a*) the B.P. Codex standard, as required by the Bureau of Standards Grade I specification, and (*b*) a lower quality to conform to the Bureau of Standards Grade II specification. Grade I is intended for surgical dressings, and Grade II, which is less expensive, for swabs, splint paddings, etc. New regulations on these lines will remove legal difficulties in applying the present regulations (Government Notice 1905 of 1955) concerning the standard for surgical dressings (including absorbent cotton wool), and will provide a standard for cheaper wadding and thus protect the public against the sale of varieties of unsuitable quality. The Council resolved to concur in the proposal as submitted by the Secretary for Health.

'Medical Centres'. A discussion took place on the ethical implications of the occupation by doctors and dentists of rooms in buildings with such names as 'Medical Centre'. The matter was referred to the Executive Committee for consideration and report.

Use of non-Registered Qualification. The Council considered an enquiry from a doctor who is not registered as a specialist but confines his practice to paediatrics whether he may place the contraction 'Canad. Cert. Paed.', standing for 'Canadian Certified Pediatrician', after his name on his stationery. It was decided to inform him that in the event of a complaint being lodged against him this might be held to infringe section 33 (3) of the Act, and also to send him a copy of ethical rule 13.

Scope of General Practice. To an enquiry whether a general practitioner may test eyes and prescribe glasses the Council directed the reply that he may perform any professional act pertaining to a medical practitioner for the performance of which he is adequately trained and/or sufficiently experienced.

Scope of General Surgical Specialist Practice. A letter from the South West Africa Branch of the Medical Association was considered, in which the following questions were asked: (*a*) What is the work of a general surgical specialist? (*b*) May a general surgeon specialist do the work of an orthopaedic surgeon specialist or, (*c*) gynaecology, obstetrics, and E.N.T. work? A letter from a medical practitioner was also under consideration asking whether a specialist general surgeon may perform Caesarian section. The Council decided to state in reply that a specialist surgeon was entitled to do any surgical work, and to treat any surgical condition, provided he was adequately trained and sufficiently experienced for the particular work that he proposed undertaking.

Specialist Surgeon as Hospital Superintendent. In reply to an enquiry the Council ruled that a specialist surgeon may accept the post of superintendent and resident surgeon at a provincial hospital but must professionally confine himself to his speciality.

Disclosing Information about a Patient. An enquiry was considered from the Natal Coastal Branch of the Medical Association whether a practitioner who is of opinion that a patient of his, by reason of an infirmity, is incapable of driving a motor car with safety to the public, may divulge this fact to the authorities concerned with driving licences. The Branch had received a suggestion from the Chief Constable of Durban that a circular should be sent to doctors asking them to act in this manner under promise of secrecy. An ophthalmologist had also communicated with the Branch on the same subject. It was decided to inform the Branch that the Council cannot agree to the suggestion, and to refer the Branch to rule 16 of the ethical rules.

A doctor had refused to accede to the request of the area secretary of a benefit society to disclose the nature of a society patient's illness, and also to the subsequent request of the chief medical officer of the society to be supplied with that information confidentially. In reply to the doctor's request for a ruling it was decided to state that the Council took the view that the ailments of a patient

must not be disclosed to anyone without the consent of the patient, as is shown in ethical rule 16.

On Dissolving Partnership. A partnership consisting of 4 dentists, practising at the same rooms is about to be dissolved, 2 members continuing to practise in partnership at these rooms, and the other 2 members practising in partnership elsewhere. In reply to enquiries on behalf of each of the two new partnerships the Council decided to state that the departing dentists may advise *bona fide* patients by communications in accordance with ethical rule 1 (3), and leave a notice at the old rooms in terms of ethical rule 3 (6), but that the Council cannot deal with legal implications of the partnership agreement.

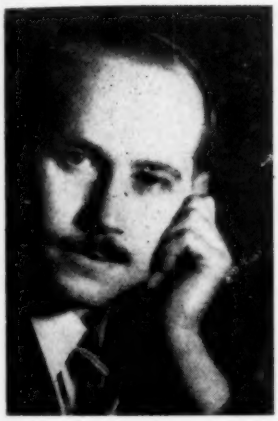
Next Meeting. The next meeting of the Council was fixed to be held in Cape Town, opening on 11 March 1957.

IN MEMORIAM

DR. ATTILIO EMILIO DREOSTI, M.B., CH.B., F.R.C.S. (ENG.)

Dr. Jan H. de Kock en Dr. K. Jooste skryf as volg: Met die ontydige dood op 44-jarige leeftyd van wyle mnr. A. E. Dreosti in Rome op Woensdag, 27 Junie 1956, het die mediese wêreld een van sy mees vooraanstaande en deurlugte persoonlikhede verloor.

Sy kort lewe is 'n rekord van diens aan die mensheid en aan sy geëerde beroep, maar dit is veral oor wat hy bereik het en oor die opofferinge wat hy hom ten voordele van die chirurgie getroos het, dat ons nou aan hom hulde bring.



Dr. A. E. Dreosti

Hy is in 1912 in Pretoria gebore en het aan die Pretoria Boys High School gematrikuleer, vanwaar hy na die Pretoriase Universiteit gegaan het en daarvandaan na die Universiteit van Kaapstad. Hy was 'n briljante student en het in 1936 die graad M.B., B.Ch. aan die Universiteit van Kaapstad verwerf. Daarna is hy as Huis dokter by professor Saint in Kaapstad aangestel, vanwaar hy na Engeland vertrek het om in 1938 die F.R.C.S. aldaar te verwerf.

Met sy terugkeer na Suid-Afrika is hy aangestel in die personeel van die Verre Oos-Randse Hospitaal, waar hy anderhalf jaar lank werksaam was. In 1941 het hy as chirurg in private praktyk getree, in vennootskap met mnr. J. A. Douglas, van Johannesburg. Gelyktydig is hy aangestel in die personeel van die Algemene Hospitaal, waar hy later assistent-chirurg geword het, tot sy dood.

In 1942 is hy aangestel as raadplegende chirurg van die Kamer van Mynwese-hospitaal, chirurg vir die S.A. Polisie en raadplegende chirurg by die Tandheelkundige Hospitaal van die Universiteit van die Witwatersrand, asook as lektor in Chirurgie en Chirurgiese Patologie.

Hy was nie alleen 'n buitengewoon bekwame chirurg nie, maar was ook bekend vanweë sy voortdurende bedagsaamheid en humanitêre optrede teenoor sowel sy pasiënte as sy kollegas.

Sy groot praktyk het tot in baie dele van die Unie gereik, en sy plotselinge dood is soveel te meer tragies aangesien hy sy hoogste ideale so pas eers bereik gehad het en op die hoogtepunt van 'n groot chirurgiese loopbaan gestaan het.

Sy voortdurende pogings om verskeie groot chirurgiese tegnieke te vervolmaak, het meegebring dat hy dikwels besoeke oorsee afgelê het waar hy in die besonder be-indruk is deur professor Valdoni, van die Universiteit van Rome.

In Suid-Afrika was hy die pionier van die Valdoni-operasie vir galstene aan die onderpunt van die gemeenskaplike galbuis, en hy was ook bekend vanweë sy pionierswerk in tweesydige adrenalektomie. Slegs diegene wat dit ervaar het, sal weet wat sy advies an bystand te alle tye vir die algemene praktisyn en chirurg beteken het.

'n Fyn opgevoede gentleman, goed bereis, en met breë kennis van 'n groot verskeidenheid onderwerpe, 'n man met 'n onvergelyklike pligsbesef, en 'n treffende humorsin het hom die man gemaak wat ons as ‚Dreo' geken het. Die eer om intiem met so 'n vooraanstaande persoon geassosieer te gewees het, aksentueer 'n mens se verlies van 'n vriend, 'n kollega en 'n leermeester.

Eindelik wil ons ook ons opregte meegevoel betuig met sy gade, dr. M. Bennett, en sy dierbare kindertjies, A.G., tien jaar, en Lydia, sewe jaar.

PASSING EVENTS : IN DIE VERBYGAAN

Union Department of Health Bulletins. Report for the 8 days ended 6 September 1956.

Plague, Smallpox, Typhus Fever. Nil.

Epidemic Diseases in Other Countries.

Plague: Nil.

Cholera in Calcutta (India).

Smallpox in Allahabad, Bombay, Calcutta, Delhi, Karikal, Madras, Pondicherry, Tuticorin, Visakhapatnam (India); Makassar (Indonesia).

Typhus Fever in Baghdad (Iraq).

* * *

Report for the 7 days ended 13 September 1956.

Plague: Nil.

Smallpox. Transvaal. No further cases have been reported from the Standerton district since the notification of 23 August 1956. This area may now be regarded as free from infection.

Typhus Fever: Nil.

Epidemic Diseases in Other Countries.

Plague: Nil.

Cholera in Calcutta (India); Chalna, Dacca (Pakistan).

Smallpox in Rangoon (Burma); Ahmedabad, Bombay, Calcutta, Delhi, Kanpur, Tuticorin, Visakhapatnam (India); Makassar (Indonesia); Dacca (Pakistan); Mombasa (Kenya); Dar es Salaam (Tanganyika).

Typhus Fever in Baghdad (Iraq); Alexandria (Egypt).

* * *

Dr. Werner Weinberg of 214 Harley Chambers, Jeppe Street, Johannesburg, has received from the International Fertility Association, confirmation of his nomination as National Secretary of the International Fertility Association in the Union of South Africa.

* * *

Present Day Living Conditions. The second International Conference of the World Congress of Doctors for the Study of Present-day Living Conditions will be held from 27-29 September 1957, in Cannes, France. The programme for the *International Conference on the Influence of Living and Working Conditions on Health* is as follows: I. The Level of Nutrition and the Incidence of Disease. II. Effects of Work on Physical and Mental Health. III. Effects of Increased Ionizing Radiation on Human Health.

Information of all kinds may be obtained at the Secretariat of the World Congress of Doctors, Vienna, I., Wollzeile 29/3 (Austria).

* * *

Dr. John Gant, B.Sc., M.B., Ch.B. (Cape Town), M.R.C.P.E., formerly Senior Medical Registrar and physician to Groote Schuur Hospital, Cape Town, has commenced practice as a specialist physician in Windhoek, South West Africa. Consulting rooms—20th Century Building, Bülowstrasse, Windhoek. Telephones: consulting rooms 5513, residence 5729.

* * *

Dr. John Gant, B.Sc., M.B., Ch.B. (Kaapstad), M.R.C.P.E., voorheen senior mediese registrateur en internis by Groote Schuur Hospitaal, Kaapstad, praktiseer nou as spesialis in interne geneeskunde te Windhoek, S.W.A. Spreekkamers, 20th Century, gebou, Bülowstrasse, Windhoek. Telefone: spreekkamers 5513, woning 5729.

* * *

Members are reminded that they should notify any change of address to the Secretary of the Medical Association of South Africa at P.O. Box 643, Cape Town, as well as to the Registrar of the South African Medical and Dental Council, P.O. Box 205, Pretoria.

Failure to advise the Association can only result in non-delivery of the *Journal*. This applies to members proceeding overseas as well as to those who change their addresses within the Union.

* * *

Maybaker (S.A.) (Pty.) Ltd. announce that their Port Elizabeth warehouse and factory will be closed from 10 December 1956 to 1 January 1957, both dates inclusive. The Johannesburg depot will close for the same period. During this period urgently needed supplies can be obtained from Port Elizabeth.

The Medical Graduate Association of the University of Johannesburg is holding an Alumni Dinner in honour of the Class '29/'30 and the teachers together with present members of staff. The dinner will take place on 18 October and not 11 October as previously stated.

* * *

Mr. Anthony J. Leonsins, Senior Tutorial Surgeon, University of the Witwatersrand, and Surgeon, General Hospital, Johannesburg, has been appointed Eli Lilly Medical Research Fellow (South Africa) for the year 1956.

Mr. A. J. Leonsins

The fellowship is valued at approximately £1,500 for one year. He has been accepted as a Surgical Research Fellow at Harvard University under Professor Edward R. Churchill and he has also been appointed a Clinical Research Assistant at Massachusetts General Hospital, Boston, where he proposes to engage in vascular and surgical metabolism studies.

Mr. Leonsins will fly to America in October or November and will be joined by Mrs. Leonsins in July next year.

KLINIESE AAND BY KARL BREMER-HOSPITAAL

'n Baie aangename en geslaagde funksie het by die Karl Bremer-hospitaal, Bellville, op die aand van Woensdag 26 September 1956, plaasgevind. Dit was eintlik die verwelkoming van die pas-aangestelde professore en al die lede van die gesamentlike geneeskundige personeel van die Geneeskundige Fakulteit, Universiteit Stellenbosch, en was in die vorm van 'n Kliniese Aand, toe lede van die hospitaal-personeel pasiënte getoon en bespreek het.

Dr. R. L. M. Kotze, Mediese Superintendent, het 'n verwelkomingswoord gerig aan dr. A. J. Brink, dr. F. D. du T. van Zyl en dr. J. N. de Villiers, professore in Interne Geneeskunde, Chirurgie, Verloskunde en Genekologie, onderskeidelik, waarop elkeen gepas geantwoord het.

Soos dr. Kotze tereg gesê het, was dit 'n geskiedkundige byeenkoms, want dit was die eerste funksie van sy soort deur die hospitaal gereël, en was dit ook die praktiese inlywing van die werksaamhede van die Fakulteit.

Daar was 'n goeie opkoms van sowat 70 geneeshere, behalwe die inwonende geneeskundige personeel van die hospitaal, en hoe uniek hierdie geleentheid was, getuig die feit dat geneeshere van die omliggende dorpe Stellenbosch, Paarl, Malmesbury, en tot so vêr as Moorreesburg teenwoordig was.

Die volgende geneeshere het die gevalle teenoor hulle name getoon en beskryf:

Echinococcus kieste van die lewer—professor F. D. van Zyl; (*a*) Tetralogie van Fallot, (*b*) Hemarthrose—professor A. J. Brink; Avulsie van die onderste femorale epiphysis—dr. H. Bell; Subdurale effusie—dr. W. H. Opie; Abdominale tuberkulose—dr. J. van Zyl; Congenitale syphilis—dr. R. Maggs; Amoeboma van die kolon—dr. B. J. Dreyer.

Verversings is hierna bedien en daar was toe geleentheid vir gesellige verkeer vir die lede van die byeenkoms.

REVIEWS OF BOOKS : BOEKRESENSIES

RELIEF OF SYMPTOMS

The Relief of Symptoms. By Walter Modell, M.D., F.A.C.P. Pp. 450 + x, with illustrations. $8.00. Philadelphia and London: W. B. Saunders Company. 1955.

Contents: Part I—Theory. 1. An Argument for the Relief of Symptoms. 2. The Nature of Relief. 3. The Complaint. 4. Placebo Action of Drugs. 5. The Trial with the Drug. *Part II—Practice.* 6. Pain. 7. Anxiety. 8. Insomnia. 9. Gas. 10. Constipation. 11. Diarrhea. 12. Loss of Appetite. 13. Obesity. 14. Palpitations. 15. Edema. 16. Dyspnea. 17. Cough. 18. Fever. 19. Weakness and Fatigue. 20. Nausea and Vomiting. 21. Vertigo. 22. Itch. 23. Hiccups. 24. Unconsciousness. 25. Convulsions. 26. Skeletal Muscle Spasm. 27. Menstrual Disorders. 28. Frequency and Dysuria. 29. Jaundice. *Part III—Counsel.* 30. Cortisone and the Masking of Symptoms. Index.

This is an extraordinarily interesting addition to pharmacological and therapeutic literature. The author, who is Associate Professor of Clinical Pharmacology at Cornell, has broken new ground in his approach to the problem of the treatment of symptoms. As a result he has produced an eminently readable text and has presented the profession with a thoughtful and scientific approach to the handling of the unpleasant though not necessarily lethel effects of illness.

The book is divided into three parts, the first of which he labels 'Theory', the second 'Practice' and the third 'Counsel'. The first part is an introduction to the consideration of the relief of symptoms as a medical problem. With great insight the author

discusses the patient's need for relief and the arguments for and against seeking such relief, include the use of placeboes. He does all this very skilfully.

Part 2 consists of a series of monographs which deal *seriatim* with particular symptoms and the means which can be adopted to relieve them. Each monograph begins with a definition of the symptom or a consideration of the scope of the symptom problem. The author then goes on to consider the problems which may arise in the control of this symptom and concludes by making recommendations on treatment. If one takes palpitations as an example, Dr. Modell divides the consideration of the subject into 3 headings: (*a*) General Considerations, (*b*) Treatment and (*c*) Summary. Under the first heading he defines the term 'palpitations' and discusses its clinical importance, the influence of awareness on palpitations and the causes of palpitations. Under Treatment he first considers the indications, secondly expectant treatment and thirdly the targets of therapy for the relief of this symptom, and finishes up with a paragraph on digitalis intoxication. Finally, under the heading of 'Summary', he epitomizes the general considerations and the treatment within the compass of one page of text.

The third section of the book which is entitled 'Counsel' is a most valuable digest of 'Cortisone and the Masking of Symptoms'. This section is a masterly analysis of the significance of cortisone and ACTH in medical practice, in the course of which the author deals in blunt, but justifiable, terms with the risks and ill-effects of the indiscriminate use of these valuable weapons. At the same time he brings out clearly the very limited extent to which they can be used specifically in therapeutics.

Dr. Modell is to be congratulated on producing a most interesting and valuable therapeutic text, which every senior medical student and every medical practitioner, general and specialist, will find of the utmost value. I have no hesitation in recommending this book to the attention of the profession.

J.M.W.

FOR THE LEARNER SURGEON

Basic Surgical Skills. A Manual with Appropriate Exercises. By Robert Tauber, M.D., F.A.C.S. Pp. 75 + vii, with illustrations. South African price £1 12s. 0d. Philadelphia and London: W. B. Saunders Company. 1955.

Contents: 1. The Training Board. 2. Square Knots. 3. The Suture Ligature. 4. Different Types of Stitches. 5. Continuous Sutures. 6. The Most Frequently Used Continuous Sutures. 7. Prophylactic Hemostasis. 8. Replacement of Hemostats. 9. Final Remarks. References. Index.

The author describes a method of teaching apprentice surgeons the basic principles of their craft. With the aid of a wooden board, hooks, nails, rods and rings, and gauze pads to act as tissues elementary exercises in the quick tying of knots, suturing and so on can be performed until proficiency is attained.

The book is well illustrated. Whether it serves as well as practice under supervision in the casualty department and the operating theatre as an assistant is a moot point. Certainly it is an improvement on the alleged 'operative surgery' classes which used to serve as an introduction to practical surgery. These have been given up in most medical schools and time is no longer wasted in practising amputations on dried-out cadavers.

In the long run there is no substitute for living tissue, since living tissue will have to be dealt with in operative surgery. But a study of this book and frequent practice may help to develop dexterity.

G.S.

CORRESPONDENCE : BRIEWERUBRIEK

HYPNOSIS IN GENERAL PRACTICE

To the Editor: In spite of the great variety of tranquilizers appearing on the market, the general practitioner still views the treatment of his increasing number of patients suffering from some form of anxiety state, and its accompanying neurotic manifestations, with a sense of futility. These tranquilizers are only useful as a temporary measure for the symptomatic treatment of the mentally agitated patient, as prolonged use of tranquilizers will only be harmful, and may even be habit forming.

The main drawback of tranquilizing treatment is, that seldom do patients under treatment reveal the root of their subconscious mental tension, and even when aware of the cause, they are too shy, or a misguided sense of pride prevents many patients from disclosing such vital information to the doctor. In the attempt to suppress the emotional disturbance to a subconscious sphere, an anxiety state arises, which may continue for years, causing a multitude of symptoms from tension headaches to peptic ulcers—all symptoms related to the continuous stimulation of the autonomic nervous system.

It is when dealing with these cases, that hypnosis can be of inestimable value to the medical practitioner, if used judiciously and in the right type of case, and no one is in a better position than the family doctor, who knows the details of his patients, to judge, who will benefit by hypnosis, and when to use hypnotic treatment.

Apart from direct suggestions of relaxation during hypnosis, there is a peculiar phenomenon often occuring immediately after even a light stage of hypnosis, where, on awakening, even the most reticent patient confides in the medical attendant, and when this information is willingly surfaced, a great deal of tension is immediately released, and the patient is on the road to recovery. Where the cause of the tension is unknown to the patient, and usually of long duration, much more time and deeper trance states are necessary to reveal the etiological factors.

To illustrate the post-hypnotic phenomenon, I shall quote two cases:

Mrs. K. a rather frail old lady, aged 75 years, developed influenza and pneumonitis about 8 months ago. Under treatment the condition cleared up, but when I saw her a few weeks later, she complained of great difficulty in breathing, and I was surprized to find, that she had developed a most peculiar type of gasping respiration, whereby, at frequent intervals, she inhaled deeply through her mouth, as she said she could not get sufficient air.

On examination: Respiratory system—chest and nasal passages normal; cardiovascular system normal for age; renal system normal. I sent her for investigation to the outpatient department of a General Hospital, but nothing abnormal could be found, and she was given Rauwolfia, sedatives and tranquilizers. I saw her on several occasions, and she attended the outpatients' department regularly, but the peculiar respiration continued.

Recently I was called to see her at her flat, where she lived alone, a circumstance I could not understand, and which the patient could not explain, as she has a married daughter, with no children, living nearby in a large house. Her main complaint on this occasion was, that she felt weak, and that her breathing difficulty had increased to such an extent, that it interfered with her eating, speech and rest. On examination I could find nothing abnormal, except the gasping respiration, which was most distressing, and there was a real danger, that the overbreathing could cause alkalosis.

I therefore decided to induce hypnosis. I expected her to be resistant, but she readily went into a light stage of hypnosis, relaxed well, and breathing became normal. I suggested to her that her heart, chest, etc. were normal, and she would breathe normally. When I wakened her, she immediately took hold of my hand, and said, she wanted to tell me something, which her pride in her son-in-law prevented her from telling me previously.

Apparently she lived with her married daughter previously. Her son-in-law seemed perfectly satisfied with the arrangement, but one day she just mentioned casually, that she hoped he did not object to her presence in the house. His answer took her completely by surprise, when he said of course he minded, and preferred to live alone with his wife. It caused such a mental shock, as she is of a rather timid, unassuming character, and at the time was under a mental strain, for her husband had recently died in a mental hospital, while her son was also an inmate of the same institution. Since then she stayed alone in a flat, and tried, as she put it: 'not to be a nuisance to anybody'.

When she had influenza and pneumonitis, I was forced to let her daughter take her back in the house for a few weeks, and no

doubt, this caused further mental tension, and resulted in the gasping respiration. Immediately after confiding in me, a great deal of the mental tension was relieved, she breathed normally, and the next day she was up and about and feeling well. Since then the breathing has been normal, and no further tranquilizers were required.

The second case: Mrs. B., age 31 years, 2 children, came to me under obvious mental stress, complaining of giddiness, palpitations, epigastric discomfort, and, at times, feeling as if she were going out of her mind, and sleeplessness. On examination I found nothing abnormal, apart from a cervicitis; and tachycardia 108/min: no signs of hyperthyroidism. On direct questioning she could offer no explanation for the nervous tension, as she was happily married, and had no financial worries. I prescribed tranquilizers, and appropriate treatment for the cervicitis.

A week later I saw her again. She told me she was feeling better, but she was obviously still not relaxed mentally. I decided to induce hypnosis, which was readily induced, and suggestions of complete relaxation were made. On awakening, she told me, she was certain that she had carcinoma of the stomach. Apparently her mother died 10 years ago from carcinoma of the stomach, and the mother always had a cancerophobia, and eventually developed cancer. Recently her father, who is still alive, developed cancer.

I discussed this fear of cancer with the patient, and pointed out that the necessary investigations could be done, and she could regularly have a complete check-up for cancer. This immediately relieved her anxiety state. After a few more hypnotic sessions, and also a barium meal, etc., her tension has completely disappeared. She has stopped taking tranquilizers, and all symptoms have disappeared.

If I had not used hypnosis in both the above cases, the treatment would have extended over a long period of time with tranquilizers, and in the first case alkalosis and right heart failure could have resulted. Hypnosis is not a cure-all for mental disturbances, but it is certainly a valuable adjunct to treatment.

These neurotic patients are ill-equipped to face the stresses of life, and at any time they may again develop nervous tension, which can be readily relieved by hypnotic treatment.

It is high time that medical schools included the study of hypnosis in the curiculum, so that future medical practitioners could be better equipped to deal with the ever-increasing number of patients suffering from anxiety states, and also other disease entities, where hypnosis has already proved itself of great value. Only in this way will be dispelled the cloak of the mysterious and the supernatural associated with hypnosis, in the minds, not only of the laiety, but even in the minds of some present-day medical practitioners.

H. J. Sutherland

Sherwood
Woodgate Road
Plumstead
24 September 1956

SEDATIVES FOR ALCOHOLICS

To the Editor: We, the undersigned medical members of the Executive of the National Council on Alcoholism, wish to draw the attention of our colleagues to the great danger that arises in the administration of sedatives to alcoholics.

The alcoholic is tense and restless, does not sleep well, and on the whole is extremely sensitive to any unpleasant stimuli. This is probably one of the main reasons why he drinks—to sedate himself. The withdrawal of alcohol naturally greatly aggravates these symptoms, and they often persist even after the withdrawal phase has been overcome.

In order to counter this tension, the doctor frequently prescribes a sedative, usually a barbiturate. In doing so, however, one sedative—alcohol—is only replaced by another sedative—a barbiturate. This has the same harmful effect on the mind as alcohol, namely, it depresses the insight, the control and the will of the alcoholic as much as the alcohol did, and in turn lessens his resolve to give up alcohol entirely. His sobriety is greatly endangered and he soon reverts to alcohol. In many instances, therefore, a double problem ensues—alcohol and drugs.

There is no easy painless way for the alcoholic to give up his drinking. To achieve sobriety is the hardest battle of his life, and for this he needs a clear mind and all the help he can get.

The alcoholic is highly addiction-prone. He drinks to escape unpleasant tension and barbiturates afford him as good a way and sometimes a much better way, to escape these tensions. They are cheaper, can be carried with him wherever he goes and do not leave that tell-tale odour.

It has been our experience that barbiturates and other sedatives are a great danger in the treatment of the alcoholic. They hinder, rather than enhance his attaining sobriety, as they weaken his control over himself and lead to other serious addictions.

The National Council on Alcoholism has, as a primary concern, numerous aspects of this grave social problem. To assist in the solution, it hopes soon to make available to the medical profession the latest information, and we would make the plea that all medical men should acquaint themselves with the modern trends in the handling of this problem.

South African National
Council on Alcoholism
P.O. Box 10134
Johannesburg

R. A. Mathews
B. Serebro
G. M. du Plessis
H. E. van Hoepen
C. B. Jeppe
W. H. Alkema
M. Frame
H. A. Shapiro (by invitation)

21 September 1956.

EUROPEAN AND NON-EUROPEAN BLOOD

To the Editor: It was with a feeling of amazement, shame and even disgust that I read in the *Star* of yesterday, 18 September 1956, that the Medical and Dental Council had weakly fallen into line with that height of apartheid stupidity, the segregation of European and non-European blood.

The Government's proposals have already received world-wide publicity, as Dr. M. Shapiro pointed out, and the profession in this country can now expect the scorn of the whole civilized world for accepting this principle for which there is no scientific basis.

During the last war, thousands of pints of blood were transfused in the field and much of this blood came from the United States. Some of it was of negro origin and was given to all races in the Forces, and were any ill-effects ever noticed? Would members of the Council refuse non-European blood for their children in an emergency should it be the only blood available?

What prompted the Council to go into Committee for this discussion? It is to be hoped that a full account of the meeting will be published in the *Journal*.

I earnestly beg the Council to reconsider their decision and reject this proposal with the contempt it deserves.

G. H. Ellacombe
Senior Medical Officer
Duff Scott Memorial Native Hospital
Stilfontein
19 September 1953

'MEDICAL CENTRES'

To the Editor: It has been drawn to my attention that the name 'The Cape Medical Centre' applied to the new building at the bottom of Adderley Street, Cape Town, is contrary to the code of medical Ethics, for the name implies that this building may be regarded by the lay public as the centre of medical practice in Cape Town.

In fact numerous lay people have already stated that they were under the impression that *all* medical practice will be concentrated in this building and the name thus becomes a form of misnomer.

Such an impression is not only fallacious, but even constitutes a form of advertisement on the part of a section of the medical fraternity to the exclusion of the rest.

What is the view of the Federal Council of the Medical Association in this instance?

Ethical

6 September

[The name 'Medical Centre', or a similar name, is used frequently for buildings occupied by medical practitioners in other countries. Buildings with such names are also found in the Union. At the meeting of the South African Medical and Dental Council held in Johannesburg on 17-21 September 1956 a discussion took place on this subject and the matter was referred to the Executive Committee for consideration and report.—Editor.]